BRIGHAM YOUNG UNIVERSITY

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Annual Catalog Issue
1957-58

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Brigham Young University Bulletin

CATALOG OF COURSES

1957-58

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Table of Contents

University Calendar 7
Administration and Faculty 10
Objectives 40
Brigham Young University—Past and Present 41
Requirements for Undergraduate Work 71
Requirements for Graduation 75
University Fees 84
Student Personnel Services 89
Colleges, Schools, Divisions 101
    College of Biological and Agricultural Sciences 102
    College of Commerce 105
    College of Education 106
    College of Family Living 119
    College of Fine Arts 125
    College of Humanities and Social Sciences 126
    College of Physical and Engineering Sciences 128
    College of Recreation, Physical and Health Education, and Athletics 130
    Graduate School 132
    School of Nursing 138
    Division of Religion 140
List of Courses 141
    Accounting 143
    Agricultural Economics 146
    Agronomy 148
    Air Science 152
    Animal Husbandry 155
    Archaeology 159
    Art 162
    Bacteriology 168
    Botany 171
    Business Education and Office Management 175
    Chemistry and Chemical Engineering Science 180
    Civil Engineering Science 185
    Clothing and Textiles 189
    Economics 193
    Economics and Management of the Home 196
    Education: Instruction 198
    Educational Administration 206
    Educational Research and Services 208
    Educational Values and Programs 211

Electrical Engineering Science 212
English 217
Family Living 225
Finance and Banking 226
Food and Nutrition 228
Geography 233
Geology and Geological Engineering Science 236
Health Education 242
History 245
Homemaking Education 250
Horticulture and Horticultural Specialties 254
Housing and Design 256
Human Development and Family Relationships 258
Industrial Arts and Drawing 264
Industrial Management 270
Journalism 273
Languages 278
Library Science 287
Marketing 289
Mathematics 292
Mechanical Engineering Science 295
Music 300
Nursing 314
Physical Education 318
Physical Science 328
Physics 329
Political Science 333
Psychology 339
Recreation 343
Religion 345

  Archaeology 345
  Bible and Modern Scripture 345
  Church History 347
  L.D.S. Church Organization and Administration 347
  Theology and Philosophy 349
  Church History and Philosophy 350
  Scripture 351
  Semitic Languages 351

Scouting Education 354
Sociology 356
Speech and Dramatic Arts 361
Zoology and Entomology 369

Adult Education and Extension Services 373
Statistical Summaries 386
Index 390

1957

APRIL

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University Calendar

1957-58

Autumn Quarter

September 24, 25 (Tuesday, Wednesday): Faculty workshop and first regular faculty meeting.

September 26, 27, 28 (Thursday, Friday, Saturday), 8:00 a.m.: Orientation and placement tests for all freshmen and sophomores who will register at B.Y.U. for the first time. Late fees will be charged for all new students who fail to appear for orientation and placement tests at 8:00 a.m. Thursday.

September 30, October 1 (Monday, Tuesday) 8:00 a.m.: Registration for all regular and special students. Students will register in an alphabetical order to be announced. A late fee will be charged all students registering after this date.

October 2 (Wednesday): Class instruction begins.

October 7 (Monday). Students who register later than October 7 will have their transcripts of credit re-examined by the University to aid in determining the number of credit hours for which they will be permitted to register.

October 21 (Monday): Last day for currently enrolled students to enter new classes.

October 26 (Saturday): Homecoming.

November 8 (Friday): Last day on which currently enrolled students may drop classes without receiving a passing or failing grade.

November 20 (Wednesday): Students withdrawing from school after this date must be doing passing work in each class if they are to be discontinued without academic failure.

November 28, 29 (Thursday, Friday): Thanksgiving recess.

December 18, 19, 20 (Wednesday, Thursday, Friday): Examination period.

December 20 (Friday): Autumn Quarter closes.

Winter Quarter

January 3, 4 (Friday, Saturday): Registration for all regular and special students. Students registering after this date will pay a late fee and will be subject to a reduced registration load.

January 6 (Monday): Class instruction begins.

January 13 (Monday): Students who register later than January 13 will have their transcripts of credit re-examined by the University to aid in determining the number of credit hours for which they will be permitted to register.

January 17 (Friday): Last day for currently enrolled students to enter new classes.

February 7 (Friday): Last day on which currently enrolled students may drop classes without a passing or a failing grade.

February 21 (Friday): Students withdrawing from school after this date must be doing passing work in each class if they are to be discontinued without academic failure.

March 17, 18, 19 (Monday, Tuesday, Wednesday): Examination period.

March 19 (Wednesday): Winter Quarter closes.

Spring Quarter

March 24 (Monday): Registration for all regular and special students. Students registering after this date will pay a late fee and will be subject to a reduced registration load.

March 25 (Tuesday): Class instruction begins.

March 31 (Monday): Students who register later than March 31 will have their transcripts of credit re-examined by the University to aid in determining the number of credit hours for which they will be permitted to register.

April 11 (Friday): Last day for currently enrolled students to enter new classes.

May 2 (Friday): Last day on which currently enrolled students may drop classes without a passing or a failing grade.

May 5 (Monday): Students desiring to enter the summer session who have not previously attended B.Y.U. should submit their application for admission on or before May 5.

May 16 (Friday): Students withdrawing from school after this date must be doing passing work in each class if they are to be discontinued without academic failure.

May 31 (Saturday): Senior Day.

June 3, 4, 5 (Tuesday, Wednesday, Thursday): Examination period.

June 5 (Thursday): Baccalaureate services.

June 6 (Friday): Alumni Day.

June 6 (Friday evening): Eighty-third Commencement Exercises.

Summer Quarter

June 16 (Monday): Registration for the Summer Quarter. All undergraduate colleges and the Graduate School offer a full quarter of work in the summer.

The Summer Quarter is divided into terms so that in special cases students may be in attendance only part of the summer, if they desire, without hindrance to the completion of their courses. Both regular terms of the Summer Quarter are held on the Provo campus.

The Summer Quarter provides the opportunity for persons who are employed during the usual nine months of schooling to pursue graduate work. It provides regular students the opportunity to complete requirements for graduation in a shorter time than four years. All facilities of the University are available during the Summer Quarter.

June 23, 24, 25, 26, 27 (Monday through Friday): Leadership Week.

July 18 (Friday): First Summer Term closes.

July 21 (Monday): Registration for Second Term.

August 22 (Friday): Second Summer Term ends.

Administration and Faculty

Board of Education of the Church of Jesus Christ of Latter-day Saints and Board of Trustees of Brigham Young University

DAVID O. McKAY	President
STEPHEN L RICHARDS	First Vice-President
J. REUBEN CLARK, JR.	Second Vice-President
JOSEPH FIELDING SMITH	
HAROLD B. LEE	
SPENCER W. KIMBALL	
EZRA TAFT BENSON	
MARK E. PETERSON	
HENRY D. MOYLE	
DELBERT LEON STAPLEY	
MARION G. ROMNEY	
LeGRAND RICHARDS	
ADAM S. BENNION	
RICHARD L. EVANS	
GEORGE Q. MORRIS	

Executive Committees of Church Board of Education and Brigham Young University Board of Trustees

JOSEPH FIELDING SMITH
HAROLD B. LEE
HENRY D. MOYLE
MARION G. ROMNEY
ADAM S. BENNION
ERNEST L. WILKINSON

Administrative Officers

ERNEST L. WILKINSON, Administrator of Board of Education and President of Brigham Young University

HARVEY L. TAYLOR, Executive Assistant to the President

WILLIAM E. BERRETT, Vice-President in Charge of Religious Education

WILLIAM F. EDWARDS, Vice-President in Charge of Finance and Business Administration

CLYDE D. SANDGREN, Secretary of Board of Trustees, Board of Education, and Executive Committees; and General Counsel and Secretary for Church School System

University General Administrative Officers

President	Ernest L. Wilkinson
Executive Assistant to the President	Harvey L. Taylor
Vice-President in Charge of Religious Education	William E. Berrett
Vice President in Charge of Finance and Business Administration	William F. Edwards
Treasurer	Kiefer B. Sauls

General Accounting	C. Joseph Rowberry
Ticket Bureau	Floyd R. Taylor, Director
Auxiliary Services	Ben E. Lewis, Director
Campus Planning and Development	Joyce W. Tippetts, Director
Farm Management, Creamery, Laundry, Food Buying	William B. Harrison, Manager
Food Service	Wells Cloward, Manager
Photo Studio	Clark W. Nelson, Manager
Purchasing, Mail Service, Post Office, Receiving	C. R. Peterson, Purchasing Agent
Student Housing	Fred A. Schwendiman, Director
University Press	Franklin R. Haymore, Manager
Motion Picture Production	Wetzel O. Whitaker, Director
Physical Plant	Leland Perry, Director
Grounds	Carl Morrison, Superintendent
Heating	Karl A. Miller, Superintendent
Maintenance of Buildings and Facilities	Robert B. Hellewell, Superintendent
Shops and Renovations	Walter F. Van Moorlehem, Superintendent
Dean of Admissions and Records	Bliss H. Crandall
Admissions Officer	Orrin H. Jackson
Machine Accounting	Bliss H. Crandall, Manager
Records and Registration Officer	Lucile Spencer
Veterans' Coordinator	Vila Olsen
Dean of Students	Wesley P. Lloyd
Assistant Dean	Howard T. Reid
Academic Standards	Selby G. Clark
Adviser to Indian Students	Robert F. Gwilliam
Adviser to Foreign Students	Selby G. Clark
Adviser on Special Student Problems	Alma W. King
Coordinator of Student Organizations	
Counseling Service	Clyde A. Parker, Chairman
Counselor for Women	Lillian C. Booth
Director of Program, Men's Housing	Kenner C. Kartchner, Jr.
Director of Program, Women's Housing	Cleo McCracken
Placement Bureau	B. Keith Duffin, Director
Scholarships, Fellowships, Assistantships and Academic Grants	Wesley P. Lloyd, Chairman
Security Officer	Captain Leonard E. Christensen
Student Health Services	Dr. Allan H. Barker, Director

Colleges, Schools, Divisions, and Research

Biological and Agricultural Sciences, College of	Raymond B. Farnsworth, Acting Dean
Commerce, College of	Weldon J. Taylor, Dean
Education, College of	Asahel D. Woodruff, Dean Antone K. Romney, Assistant Dean
Family Living, College of	Marion C. Pfund, Dean

Fine Arts, College of	Gerrit de Jong, Jr., Dean
Humanities and Social Sciences, College of	Leonard W. Rice, Dean
Physical and Engineering Sciences, College of	Harvey Fletcher, Sr., Dean
Recreation, Physical and Health Education and Athletics, College of	Milton F. Hartvigsen, Dean
	C. J. Hart, Assistant to the Dean
Graduate School	A. Smith Pond, Dean
Nursing, School of	L. Bernice Chapman, Director
Summer School	Howard T. Reid, Acting Director
Research Division	H. Tracy Hall, Director
Division of Religion	
Graduate Studies	Sidney B. Sperry, Director
Undergraduate Studies	B. West Belnap, Director
Adult Education and Extension Services	Harold Glen Clark, Dean
	Lynn M. Hilton, Assistant to the Dean
Audio-Visual Aids	Clarence Tyndall, Chairman
B.Y.U.-Ricks Adult Education Center	J. Kenneth Thatcher, Chairman
Home Study Bureau	Lula Clegg, Supervisor
Off-Campus Instruction	Mark A. Benson, Chairman
Travel Studies Bureau	Jay B. Hunt, Chairman

Service Units

Alumni Relations	Raymond E. Beckham, Director
Coordinating and Scheduling Extracurricular Events	Wesley P. Lloyd
Libraries	S. Lyman Tyler, Director
Coordinator for Technical Services	Naoma Rich
Coordinator for Reader Services	Hattie M. Knight
Librarian, Science Library	Samuel C. Chandler
Librarian, High School Library	June Berry
Librarian, Elementary School Library	Edna Judd
Public Relations and Publications	Lester B. Whetten. Director
Booking University Attractions	Floyd R. Taylor, Chairman
Civic and Church Organization Relations	Lester B. Whetten, Chairman
Devotional Assemblies	Leland E. Anderson, Chairman
Faculty Lectures	Jed J. Richardson, Chairman
High School Relations	Bryan J. Renstrom, Chairman
Junior College Relations	Lester B. Whetten, Chairman
Lyceums and Musicals	Herald R. Clark, Chairman
Press Relations	Edwin J. Butterworth, Chairman
Radio and Television Programs	Harold I. Hansen, Chairman
Student Program Bureau	Jane Thompson, Chairman
University and Professional Relations	Lester B. Whetten, Chairman
University Publications	Ernest LeRoy Olson, Chairman
Student Supply	Herald R. Clark, Chairman of the Board
	H. Neil McKnight, Manager

Departments of Instruction

Accounting	H. Verlan Anderson, Chairman
Agricultural Economics	Ivan L. Corbridge, Chairman

Agronomy	Merrill J. Hallam, Chairman
Air Science	Colonel Barnett S. Allen, Chairman
Animal Husbandry	Lawrence Morris, Chairman
Archaeology	M. Wells Jakeman, Chairman
Art	Conan E. Mathews, Chairman
Bacteriology	Don H. Larsen, Chairman
Bible and Modern Scripture	Roy W. Doxey, Chairman
Botany	Bertrand F. Harrison, Chairman
Business Education and Office Management	Edward L. Christensen, Chairman
Chemistry and Chemical Engineering Science	H. Smith Broadbent, Chairman
Church History	Russell R. Rich, Chairman
Civil Engineering Science	Harry Hodson, Chairman
Clothing and Textiles	Margaret S. Potter, Chairman
Economics	
Economics and Management of the Home	Vesta Barnett, Acting Chairman
Education: Instruction	Sterling G. Callahan, Chairman
Education: Laboratory Schools	, Director
Educational Administration	Percy E. Burrup, Chairman
Educational Research and Services	Robert L. Egbert, Chairman
Educational Values and Programs	Keith R. Oakes, Chairman
Electrical Engineering Science	Jens J. Jonsson, Chairman
English	Leonard W. Rice, Chairman
Finance and Banking	Howard D. Lowe, Chairman
Food and Nutrition	Marian Bennion, Chairman
Geography	Elliott Tuttle, Chairman
Geology and Geological Engineering Science	Kenneth C. Bullock, Chairman
Health Education and Safety	David D. Geddes, Chairman
History	Richard D. Poll, Chairman
Homemaking Education	Virginia B. Poulson, Chairman
Horticulture and Horticultural Specialties	Clarence D. Ashton, Chairman
Housing and Design	Elizabeth L. Gardner, Acting Chairman
Human Development and Family Relationships	Blaine M. Porter, Chairman
Industrial Arts and Drawing	Lavell Gamett, Chairman
Industrial Management	Richard L. Smith, Chairman
Intercollegiate Athletics	Edwin R. Kimball, Chairman
Journalism	Oliver R. Smith, Chairman
Languages	Arthur R. Watkins, Chairman
L.D.S. Church Organization and Administration	G. Byron Done, Chairman
Library Science	Hattie M. Knight, Chairman
Marketing	Weldon J. Taylor, Chairman
Mathematics	Milton Marshall, Chairman
Mechanical Engineering Science	Leland K. Baxter, Chairman
Music	John R. Halliday, Chairman
Physical Education for Men	C. J. Hart, Chairman
Physical Education for Women	Leona Holbrook, Chairman
Physics	Wayne B. Hales, Chairman
Political Science	Stewart L. Grow, Chairman
Psychology	Mark K. Allen, Chairman
Recreation	Israel Heaton, Chairman

Scouting Education	Royal B. Stone, Chairman
Sociology	Reed Bradford, Chairman
Speech and Dramatic Arts	Harold I. Hansen, Chairman
Theology and Philosophy	Chauncey C. Riddle, Chairman
Zoology and Entomology	Vasco M. Tanner, Chairman

University Council

The University Council consists of the presidency and all members of the faculty with the rank of professor, associate professor, or assistant professor. The University Council is the legislative body of the faculty. Subject to the powers reserved by the Board of Trustees and those exercised either by the president or the Deans' Council, the University Council determines policy and procedure affecting the university and its sub-divisions.

Deans' Council

The Deans' Council consists of the presidency, all deans, and the directors of schools and divisions.

The Undergraduate Colleges

Each college in Brigham Young University is an undergraduate college which offers work for the bachelor's degree only. All work beyond the bachelor's degree, in every department, is under the dean of the Graduate School.

Graduate Council

The chief administrative body of the graduate faculty is the Graduate Council, which consists of (1) the president of the University, the dean of the Graduate School, and the director of research, ex officio; (2) four members of the graduate faculty elected at large for terms of three years; (3) eight members of the graduate faculty, one elected from each of the eight colleges in which there are departments offering graduate work; and (4) one member elected to represent the Division of Religion.

The Extension Services Council

The Extension Services Council is an advisory body for the Adult Education and Extension Services.

The Faculty

Emeriti

James L. Barker .... Professor Emeritus of Modern Languages
B.A., University of Utah, 1901; L. es L., Université de Neuchatel, 1911; Research in phonetics for Modern Language Association of America, 1924-25 and 1926-27; Member, Societé de Linguistique de Paris; Officier d'Academie.

Clarence S. Boyle .... Professor Emeritus of Marketing
B.S., Brigham Young University, 1924; M.S., Ed.D., New York University, 1926, 1941.

William H. Boyle .... Professor Emeritus of Education
B.A., M.A., Brigham Young University, 1913, 1923.

Ella Larsen Brown .... Librarian Emeritus

Gustave Buggert .... Assistant Professor Emeritus of Music

Elsie C. Carroll .... Associate Professor Emeritus of English
B.S., M.A., Brigham Young University, 1926, 1928.

Benjamin F. Cummings .... Professor Emeritus of Modern and Classical Languages
B.A., University of Utah, 1913.

Norman Dunn .... Instructor Emeritus in English
King's Scholar, M.R.S.T., Saltley College, Birmingham, England, 1902-04, 1922.

Flora D. Fisher .... Instructor Emeritus in Elementary School
B.S., M.S., Brigham Young University, 1936, 1949.

May C. Hammond ....Assistant Professor Emeritus of Elementary Education
B.S., M.S., Brigham Young University, 1934, 1949.

William F. Hansen .... Assistant Professor Emeritus of Music
B.S., M.S., Brigham Young University, 1936, 1937.

John E. Hayes .... Registrar Emeritus
B.S., Brigham Young University, 1924.

Harrison Val Hoyt .... Professor Emeritus of Accounting
B.S., Purdue University, 1913; M.B.A., Harvard University, 1917; Ph.D., Stanford University, 1931.

Christen Jensen .... Professor Emeritus of History and Political Science, Dean Emeritus of the Graduate School and President Emeritus of the University
B.A., University of Utah, 1907; M.A., Harvard University, 1908; Ph.D., University of Chicago, 1921.

Bent F. Larsen .... Professor Emeritus of Art
B.A., Brigham Young University, 1912; M.A., University of Utah, 1922.

John W. McAllister .... Instructor Emeritus in Education and Public School Music
B.A., Brigham Young University, 1927.

Florence Jepperson Madsen .... Professor Emeritus of Music
B.M., M.M., Chicago Musical College, 1926, 1927; Doctor of Music, Boguslawski College of Music, 1932; B.A., Brigham Young University, 1934; M.M., hon. Doctor of Music, Chicago College of Music, 1933.

Franklin Madsen .... Professor Emeritus of Music
B.A., M.A., Brigham Young University, 1925, 1931; B.M., 1926; M.M., 1927; B.M.E., 1928; Mus. Doc., 1929; M.M.E., 1932; hon. Doctor of Music Education, Boguslawski College of Music, 1933; hon. Doctor of Music Education, Chicago College of Music, 1934.

Thomas L. Martin .... Professor Emeritus of Agronomy and Bacteriology; Dean Emeritus of the College of Applied Sciences
B.A., Brigham Young University, 1912; Ph.D., Cornell University, 1919.

Hermese Peterson .... Professor Emeritus of Elementary Education
B.S., Brigham Young University, 1928.

M. Wilford Poulson .... Professor Emeritus of Psychology
B.A., Brigham Young University, 1914; M.A., University of Utah, 1919.

Stella P. Rich .... Assistant Professor Emeritus of English
B.S., Brigham Young University, 1926.

J. Wyley Sessions .... Professor Emeritus of Religious Philosophy
B.S., Utah State Agricultural College, 1911; M.A., University of Idaho, 1928.

William H. Snell .... Professor Emeritus of Industrial Arts
B.A., M.S., Brigham Young University, 1918, 1939.

Joseph Sudweeks .... Associate Professor Emeritus of Religion
B.S., University of Idaho, 1912; M.A., University of Chicago, 1920; Ph.D., University of Wisconsin, 1925.

Margaret Summerhays .... Assistant Professor Emeritus of Music
Graduate, New England Conservatory of Music, 1916; B.A., Brigham Young University, 1936.

Effie Warnick .... Professor Emeritus of Home Economics
B.S., Utah State Agricultural College, 1914; M.S., Iowa State College, 1937.

Members of the Instructional and Administrative Staff

MEMBERS OF THE PRESIDENCY

Ernest L. Wilkinson .... President of the University
B.A., Brigham Young University, 1921; LL.B., George Washington University, 1926; S.J.D., Harvard University, 1927.

Harvey L. Taylor .... Executive Assistant to the President
B.S., University of Utah, 1921; M.A., Columbia University, 1925; LL.D., Arizona State College, 1956.

William E. Berrett ....Vice President in Charge of Religious Education
B.A., LL.B., University of Utah, 1924, 1933.

William F. Edwards .... Vice President in Charge of Finance and Business Administration
B.S., Brigham Young University, 1928; M.S., D.C.S., New York University, 1930, 1937.

Clyde D. Sandgren .... General Counsel and Secretary
B.S., Brigham Young University, 1937; LL.B., St. John's University, 1939.

THE STAFF OF THE UNIVERSITY

Lorna Call Alder .... Assistant Professor of Elementary Education (1949)
B.S., Brigham Young University, 1935; M.A., Columbia University, 1940.

Zane G. Alder .... Instructor in English (1955)
B.S., M.S., Utah State Agricultural College, 1948, 1956.

A. Lester Allen .... Assistant Professor of Zoology (1954)
B.A., Ph.D., University of California at Los Angeles, 1946, 1951.

Col. Barnett S. Allen .... Professor of Air Science (1956)

Mark K. Allen .... Professor of Psychology (1946)
B.A., Brigham Young University, 1926; M.A., Stanford University, 1935; Ph.D., Stanford University, 1955.

Stephen L. Alley .... Assistant Professor of Education (1956)
B.S., M.S., University of Utah, 1947, 1951.

Dorald M. Allred .... Assistant Professor of Zoology and Entomology (1956)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1954.

Mildred E. Allred .... Instructor in Nursing (1954)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1925; B.S., Brigham Young University, 1943.

R. Chase Allred .... Associate Professor of Agronomy (1955)
B.S., Brigham Young University, 1948; M.S., Kansas State College, 1949; Ph.D., University of Nebraska, 1952.

Mignon H. Alward .... Instructor in Nursing (1956)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1945; B.S., University of Utah, 1946.

Blaine W. Andersen .... Associate Professor of Mechanical Engineering (1956)
B.S., University of Utah, 1949; M.S., Ph.D., University of Illinois, 1951, 1953.

H. Verlan Andersen .... Professor of Accounting (1953)
B.S., Brigham Young University, 1940; LL.B., Stanford University, 1946; LL.M., Harvard University, 1948; C.P.A., State of Arizona, 1943.

C. Dixon Anderson .... Instructor in Modern Languages (1956)
B.A., Brigham Young University, 1953; M.A., University of Texas, 1956.

Colleen M. Anderson .... Instructor in Nursing (1956)
Diploma, Holy Cross Hospital, Salt Lake City, 1954; B.S., St. Mary-of-the-Wasatch College, 1956.

Floyd M. Anderson .... Associate Professor of Human Development and Family Relationships (1956)
B.S., Brigham Young University, 1950; Ed.D., Teachers College, Columbia University, 1956.

Keith P. Anderson .... Associate Professor of Chemistry (1953)
B.A., Brigham Young University, 1946; Ph.D., Cornell University, 1950.

Richard L. Anderson .... Assistant Professor of Religion (1955)
B.A., Brigham Young University, 1951; LL.B., Harvard University, 1954.

Vernon L. Anderson .... Associate Professor of Modern Languages (1956)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., Stanford University, 1954.

Hyrum L. Andrus .... Assistant Professor of Religion (1956)
B.S., Ricks College, 1951; M.S., Brigham Young University, 1952; D.D.S., Syracuse University, 1955.

J. Roman Andrus .... Associate Professor of Art and Education (1943)
B.S., M.S., Brigham Young University, 1942, 1943.

Richard D. Andrus .... Instructor in Physical Education (1956)
B.A., Long Beach State College, 1952; M.Ed., Brigham Young University, 1956.

Evelyn Applonie .... Instructor in Homemaking Education (1956)
B.S., Utah State Agricultural College, 1945.

Clarence D. Ashton .... Associate Professor of Horticulture and Horticultural Specialties (1951)
B.S., Brigham Young University, 1929.

Hyrum J. Babcock .... Assistant Professor of Elementary Education (1954)
B.A. M.A., Ph.D., University of California, 1939, 1940, 1953.

Dale S. Bailey .... Instructor in English (1955)
B.A., Brigham Young University, 1952; M.A., Columbia University, 1954.

***Ariel S. Ballif** .... Professor of Sociology; Director of the Summer School (1938)
B.S., Brigham Young University, 1925; M.A., Ph.D., University of Southern California, 1937, 1945. (On leave as President of the New Zealand Mission.)

Richard Ballou .... Instructor in Music (1951)
B.A., M.A., Brigham Young University, 1948, 1953.

Blauer L. Bangerter .... Instructor in Physical Education (1953)
B.A., M.S., Brigham Young University, 1951, 1955.

Reid E. Bankhead .... Assistant Professor of Religion (1949)
B.S., University of Utah, 1947; M.Th., Brigham Young University, 1949.

Frances P. Barlow .... Instructor in Human Development and Family Relationships (1954)
B.S., University of Utah, 1933; M.Ed., Utah State Agricultural College, 1938.

Owen L. Barnett .... Associate Professor of Educational Administration (1950)
B.S., M.S., Brigham Young University, 1923, 1927.

Vesta Barnett .... Instructor in Economics and Management of the Home (1956)
B.S., M.Ed., Brigham Young University, 1932, 1954.

Vermon S. Barney .... Assistant Professor of Health and Physical Education (1953)
B.S., Utah State Agricultural College, 1948; Diploma in Physical Therapy, Children's Hospital Association School of Physical Therapy, University of California at Los Angeles, 1951.

Ivan J. Barrett .... Assistant Professor of Religion (1953)
B.S., Utah State Agricultural College, 1938; M.S., Brigham Young University, 1947.

Davis Bartholomew .... Professor of Electrical Engineering (1954)
B.S., University of Utah, 1928; M.S., University of Minnesota, 1940. P.E.E., University of Utah, 1948.

J. LaVar Bateman .... Associate Professor of Speech (1949)
B.A., Brigham Young University, 1941; M.S., Ph.D., University of Wisconsin, 1947, 1950.

Edith Bartholomew Bauer .... Associate Professor of Secondary Education (1945)
B.A., M.A., Brigham Young University, 1930. 1946; Ph.D., University of California (Berkeley), 1956.

Leland K. Baxter .... Associate Professor of Mechanical Engineering (1953)
B.S., University of New Mexico, 1948; M.S., Ph.D., Purdue University, 1952, 1953.

D Elden Beck .... Associate Professor of Zoology and Entomology (1938)
B.A., M.A., Brigham Young University, 1929, 1930; Ph.D., Iowa State College, 1933.

***Jay V. Beck** .... Professor of Bacteriology (1951)
B.A., M.A., Brigham Young University, 1933, 1936; Ph.D., University of California (Berkeley), 1940. (On leave for post-doctoral study at Sheffield University, England.)

B. West Belnap .... Professor of Church Organization; Director of Undergraduate Studies in Religion (1951)
B.S., Brigham Young University, 1946; M.A., Ed.D., Columbia University, 1950, 1951.

Erma Bennett .... Instructor in Education: Instruction (1956)
B.S., Brigham Young University, 1936.

Marian Bennion .... Associate Professor of Food anl Nutrition (1952)
B.S., Utah State Agricultural College, 1947; M.S., Teachers College, Columbia University, 1949; Ph.D., University of Wisconsin, 1956.

Mark A. Benson .... Instructor in Education (1957)
B.S., Brigham Young University, 1952; M.A., Stanford University, 1953.

Anthony I. Bentley, Sr. .... Instructor in Religion (1954)
B.A., Brigham Young University, 1930; M.A., University of Southern California, 1940.

***Joseph T. Bentley** .... Associate Professor of Accounting (1953)
B.S., M.S., Brigham Young University, 1928, 1954; C.P.A. (On leave as President of the Northern Mexican Mission.)

William E. Berrett .... Professor of Religion (1948)
B.A., LL.B., University of Utah, 1924, 1933.

Max J. Berryessa .... Assistant Professor of Elementary Education (1948)
B.S., M.S., Brigham Young University, 1948, 1949.

Harold J. Bissell .... Professor of Geology (1938)
B.S., Brigham Young University, 1934; M.S., Ph.D., University of Iowa, 1936, 1948.

Jesse R. Black .... Associate Professor of Business Education and Office Management
B.S., Utah State Agricultural College, 1938; M.S., University of Utah, 1941; Ed.D., University of Utah, 1955.

Angus U. Blackham .... Associate Professor of Chemistry (1952)
B.A., Brigham Young University, 1949; M.A., Ph.D., University of Cincinnati, 1950, 1952.

Ruth S. Bloom .... Assistant Professor of Nursing (1955)
Diploma, Brooklyn State Hospital, 1940; B.A., Brooklyn College, 1942; M.P.S., University of Colorado, 1947.

Lillian C. Booth .... Counselor for Women (1938)
B.S., M.S., Brigham Young University, 1940, 1950.

Winnifred Bowers .... Instructor in Speech (1954)
B.S., M.A., University of Utah, 1946, 1950.

Genevieve W. Bowman .... Instructor in Food and Nutrition (1956)
B.A., Utah State Agricultural College, 1951.

***William Brace** .... Instructor in Library Science (1954)
B.A., Brigham Young University, 1951; M.A., University of Chicago, 1955. (On leave for further graduate study at University of Chicago.)

Charles H. Bradford .... Instructor in Economics (1956)
B.S., M.S., University of Utah, 1952, 1953.

Reed H. Bradford .... Professor of Sociology (1946)
B.A., Brigham Young University, 1937; M.A., Louisiana State University, 1939; M.A., Ph.D., Harvard University, 1941, 1946.

Willis H. Brimhall .... Instructor in Geology (1956)
B.S., Brigham Young University, 1949; M.S., University of Arizona, 1951.

Ralph A. Britsch .... Associate Professor of English (1938)
B.A., M.A., Brigham Young University, 1933, 1951.

H. Smith Broadbent .... Professor of Chemistry (1946)
B.S., Brigham Young University, 1942; Ph.D., Iowa State College, 1946.

Billings Brown .... Associate Professor of Chemical Engineering (1953)
B.S., M.S., Ph.D., University of Washington, 1951, 1951, 1953.

Arthur D. Browne .... Professor of Higher Education (1952)
B.A., San Jose State College, 1940; M.A., Stanford University, 1943; Ph.D., Syracuse University, 1952.

Robert S. Brownlee .... Instructor in Music (1955)
B.Mus., Oberlin College, 1952; B.A., M.A., Brigham Young University, 1954, 1955.

Loren C. Bryner .... Professor of Chemistry (1935)
B.S.,M.S., Brigham Young University, 1928, 1930; Ph.D., Iowa State College, 1934.

Maurine F. Bryner .... Instructor in Food and Nutrition (1957)
B.S. Brigham Young University, 1928.

Kenneth C. Bullock .... Professor of Geology (1943)
B.S., M.A., Brigham Young University, 1940, 1942; Ph.D., University of Wisconsin, 1949.

Robert E. Bunker .... Instructor in Physical Education;
Assistant Football Coach (1949)
B.S., Utah State Agricultural College, 1937.

Olive Kimball Burmingham .... Instructor in English (1947)
B.A., University of Arizona, 1932; M.A., Brigham Young University, 1934.

Percy E. Burrup .... Professor of Educational Administration (1952)
B.S., M.S., Utah State Agricultural College, 1932, 1941; Ed.D., Colorado State College of Education, 1951.

Jess R. Bushman .... Assistant Professor of Geology (1955)
B.A., Brigham Young University, 1949.

Eliot A. Butler .... Assistant Professor of Chemistry (1956)
B.S., Ph.D., California Institute of Technology, 1952, 1955.

Newbern I. Butt .... Associate in Library and Research (1922)
B.S., Utah State Agricultural College, 1915; M.S., Brigham Young University, 1939.

Edwin J. Butterworth .... Assistant Professor of Journalism (1949)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1954.

Glen H. Calder .... Instructor in Engineering Science (1955)
B.S., M.S., Utah State Agricultural College, 1952, 1953.

JoAnn Calderwood .... Instructor in Physical Education (1955)
B.S., Utah State Agricultural College, 1953; M.S., State College of Washington, 1955

***Gaylon L. Caldwell** .... Associate Professor of Political Science (1951)
B.A., Utah State Agricultural College, 1947; M.A., University of Nebraska, 1948; Ph.D., Stanford University, 1952. (On leave for post-doctoral study.)

Sterling G. Callahan ....Associate Professor of Secondary Education (1953)
B.A., Brigham Young University, 1937; M.A., George Washington University, 1947; Ed.D., University of Virginia, 1953.

Eugene E. Campbell .... Professor of History (1956)
B.A., M.A., University of Utah, 1939, 1940; Ph.D., University of Southern Caifornia, 1952.

Jennie Campbell .... Associate Professor of Elementary Education; Director of Student Teaching (1952)
B.S., Brigham Young University, 1928; M.A., Teachers College, Columbia University, 1937.

Dorothy Nelson Candland .... Associate Professor of Education (1947)
B.S., M.S., Brigham Young University, 1940, 1949; Ed.D., Stanford University, 1956.

Ray R. Canning .... Associate Professor of Sociology (1947)
B.S., Utah State Agricultural College, 1942; M.S., Brigham Young University, 1948.

***Clawson Y. Cannon, Jr.** .... Assistant Professor of Music (1949)
B.M., Eastman School of Music, University of Rochester, 1948; Diploma, Konservatorium Zurich, 1953; B.A., M.A., Brigham Young University, 1954, 1955. (On leave for further graduate study at New York University.)

Clawson Y. Cannon, Sr., ... Professor of Animal Husbandry (1956)
B.S., Utah State Agricultural College, 1913; M.S., Ph.D., Iowa State College, 1924, 1927.

Kenneth L. Cannon .... Professor of Human Development and Family Relationships (1956)
B.S., Brigham Young University, 1935; M.S., Ph.D., Iowa State College, 1948, 1954.

***Mark W. Cannon** .... Instructor in Political Science (1955)
B.A., University of Utah, 1949; M.P.E., M.P.A., Harvard University, 1954, 1955. (On leave as administrative assistant to Representative Henry Aldous Dixon.)

Wayne M. Carle .... Instructor in Journalism (1956)
B.A., M.Ed., Brigham Young University, 1952, 1956.

Bernece W. Carpenter .... Instructor in Nursing (1956)
Dipoma, Salt Lake County General Hospital, 1941; B.S., Brigham Young University, 1951.

***William C. Carr** .... Assistant Professor of History and Political Science (1946)
B.A., Brigham Young University, 1934. (On leave for further graduate study at University of Hawaii.)

Samuel C. Chandler .... Science Librarian (1952)
B.S., M.A., Brigham Young University, 1947, 1951; M.A. in L.S., George Peabody College for Teachers, 1951.

L. Bernice Chapman .... Associate Professor of Nursing; Director of the School of Nursing (1956)
Diploma, Community Hospital, Grinnell, Iowa, 1930; B.S., University of Minnesota, 1935; M.A., Columbia University, 1952.

Thomas E. Cheney .... Associate Professor of English (1945)
B.S., Utah State Agricultural College, 1930; M.A., University of Idaho, 1936.

Dean C. Christensen .... Associate Professor of Secondary Education (1957)
B.S., M.S., Utah State Agricultural College, 1938, 1948.

Earl M. Christensen .... Assistant Professor of Botany (1949)
B.S., M.S., University of Utah, 1947, 1949; Ph.D., University of Wisconsin, 1954.

Edward L. Christensen .... Associate Professor of Business Education and Office Management (1953)
B.S., M.S., Ph.D., University of Utah, 1938, 1939, 1953.

Parley A. Christensen .... Professor of English (1927)
B.S., Utah State Agricultural College, 1914; M.A., Ph.D., Stanford University, 1925, 1927.

Ross T. Christensen .... Assistant Professor of Archaeology (1952)
B.A., M.A., Brigham Young University, 1943, 1947, Ph.D., University of Arizona, 1956.

John R. Christiansen .... Assistant Professor of Sociology (1957)
B.S., M.S., Utah State Agricultural College, 1949, 1952; Ph.D., University of Wisconsin, 1955.

Bruce B. Clark .... Associate Professor of English (1950)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Utah, 1951.

Harold Glen Clark .... Professor of Education; Dean of Adult Education and Extension Services (1946)
B.S., Brigham Young University, 1928; M.S., University of Southern California, 1934; Ed.D., George Washington University, 1942.

Herald R. Clark .... Professor of Finance and Banking (1913)
B.A., Brigham Young University, 1918; M.B.A., University of Washington, 1924.

J. Reuben Clark, III .... Assistant Professor of Modern Languages (1941)
B.A., University of Utah, 1934.

James R. Clark .... Assistant Professor of Religion (1938)
B.A., M.A., Brigham Young University, 1936, 1944.

Marden J. Clark .... Assistant Professor of English (1949)
B.A., M.A., Brigham Young University, 1948, 1949.

Monroe H. Clark .... Associate Professor of Philosophy of Education and Guidance (1945)
B.A., Columbia University, 1923; M.A., Brigham Young University, 1927.

Selby G. Clark .... Associate Professor of Personnel and Guidance (1953)
B.S., University of Utah, 1948; M.A., University of Minnesota, 1949; Ed.D., State College of Washington, 1953.

A. John Clarke .... Professor of Educational Administration (1938)
B.S., M.S., Brigham Young University, 1938, 1942; Ed.D., Colorado University, 1950.

Morris M. Clinger .... Assistant Professor of Speech (1936)
B.A., M.A., Brigham Young University, 1932, 1946.

Thelma Cochran .... Assistant Professor of Nursing (1954)
B.S., New York University, 1935; Diploma, Brooklyn Hospital School of Nursing, 1947; M.A., New York University, 1953.

Lane A. Compton .... Assistant Professor of Physical Science Education (1953)
B.S., M.S., Ed.D., University of Utah, 1943, 1951, 1955.

Ivan L. Corbridge .... Associate Professor of Economics (1952)
B.A., Utah State Agricultural College, 1946; M.S., University of Chicago, 1948; Ph.D., Washington State College, 1952.

Cyntha A. Cowan .... Instructor in Physical Education (1948)
B.A., University of Utah, 1947; M.S., University of Washington, 1952.

Marshall R. Craig .... Assistant Professor of English (1953)
B.S., Brigham Young University, 1941; M.A., Columbia University, 1947.

Soren F. Cox .... Instructor in English (1955)
B.A., M.A., Brigham Young University, 1952, 1956.

***Lars G. Crandall** .... Assistant Professor of Business Education and Office Management (1944)
B.S., M.S., Brigham Young University, 1944, 1945. (On leave for further graduate study at Colorado State College of Education.)

John K. Crnkovic .... Assistant Professor of Education: Instruction (1956)
B.A., Willamette University, 1930; M.A., University of Michigan, 1940; Ed.D., Arizona State College (Tempe), 1956.

Evan M. Croft .... Associate Professor of Business Education and Office Management (1936)
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.

David M. Crowton .... Instructor in Physical Education; Assistant Coach (1937)
B.S., Brigham Young University, 1938.

Brandt B. Curtis .... Instructor in Music (1955)
B.A., Brigham Young University, 1953; M.M., Indiana University, 1955.

T./Sgt. Clayne G. Curtis .... Instructor in Air Science (1955)

Delva Daines .... Assistant Professor of Elementary Instruction (1955)
B.S., M.S., Utah State Agricultural College, 1940, 1947; Ed.D., State College of Washington, 1956.

Alexander B. Darais .... Instructor in Art (1954)
B.S., Brigham Young University, 1948; M.F.A., Claremont Graduate School, 1952.

J. Kenneth Davies .... Assistant Professor of Economics (1953)
B.S., Marquette University, 1945; M.S., Brigham Young University, 1950.

Allan R. Davis .... Instructor in Physical Education; Assistant Football Coach (1956)
B.S., University of Utah, 1948.

***C. Edwin Dean** .... Instructor in Mathematics (1949)
B.S., M.S., Brigham Young University, 1950, 1952. (On leave for further graduate work at the University of Michigan.)

Gerrit de Jong, Jr. .... Professor of Modern Languages; Dean of the College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1934.

Fred W. Dixon .... Assistant Professor of Physical Education; Tennis and Golf Coach (1928)
B.S., M.S., Brigham Young University, 1926, 1939.

Owen G. Dixon .... Instructor in Physical Education; Assistant Football Coach (1947)
B.S., Brigham Young University, 1946.

Mignon Domgaard .... Instructor in Clothing and Textiles (1954)
B.S., Utah State Agricultural College, 1943; M. of H.E., Oregon State College, 1954.

David M. Donaldson .... Assistant Professor of Bacteriology (1955)
B.S., M.S., Ph.D., University of Utah, 1950, 1952, 1954.

G. Byron Done .... Professor of Religion (1956)
B.A., University of Utah, 1928; M.A., Ph.D., University of Southern California, 1937, 1939.

Lester N. Downing .... Associate Professor of Educational Research and Services (1954)
B.S., M.S., Utah State Agricultural College, 1947, 1949; Ed.D., Colorado State College of Education, 1951.

Roy W. Doxey .... Assistant Professor of Religion (1948)
B.A., M.A., George Washington University, 1938, 1940.

Willard B. Doxey .... Instructor in Economics (1956)
B.S., M.S., University of Utah, 1937, 1947; Ph.D., University of California (Berkeley), 1956.

J. Duane Dudley .... Instructor in Physics (1956)
B.S., Brigham Young University, 1952; M.A., Rice Institute, 1953.

Keith E. Duke .... Assistant Professor of Geography (1956)
B.A., University of California at Los Angeles, 1947; Docteur de l'Univ., Université de Bordeaux, France, 1950.

William G. Dyer .... Assistant Professor of Sociology (1955)
B.A., M.A., Brigham Young University, 1950, 1952; Ph.D., University of Wisconsin, 1955.

Don L. Earl .... Associate Professor of Music (1946)
B.A., M.A., Brigham Young University, 1940, 1947; Ph.D., Indiana University, 1952.

E. John Eastmond .... Professor of Physics (1951)
B.A., Brigham Young University, 1937; Ph.D., University of California, 1943.

Jefferson N. Eastmond .... Associate Professor of Educational Administration (1956)
B.S., M.S., Brigham Young University, 1947, 1948; Ed.D., Teachers College, Columbia University, 1950.

Blaine E. Edlefsen .... Instructor in Music (1953)
B.A., Brigham Young University, 1952; M. Mus., Eastman School of Music, University of Rochester, 1953.

Robert L. Egbert .... Professor of Educational Psychology (1955)
B.S., M.S., Utah State Agricultural College, 1947, 1948; Ph.D., Cornell University, 1949.

J. Orval Ellsworth .... Professor of Religion (1954)
B.S., Utah State Agricultural College, 1917; M.S., Ph.D., Cornell University, 1924, 1926.

LaMar T. Empey .... Assistant Professor of Sociology (1955)
B.S., M.S., Brigham Young University, 1951, 1952; Ph.D., State College of Washington, 1955.

*__Ross S. Esplin__ .... Instructor in English (1953)
B.A., M.A., Brigham Young University, 1947, 1949. (On leave for further graduate study at the University of California.)

David L. Evans .... Instructor in English (1954)
B.A., Idaho State College, 1948; M.A., University of Utah, 1953.

Dean B. Farnsworth .... Associate Professor of English (1953)
B.A., M.A., University of Utah, 1946, 1947; Ph.D., University of California (Berkeley), 1950.

Raymond B. Farnsworth .... Professor of Agronomy; Acting Dean of the College of Biological and Agricultural Sciences (1946)
B.S., Brigham Young University, 1937; M.S., Massachusetts State College, 1938; Ph.D., Ohio State University, 1941.

M. Charles Faux .... Instructor in Industrial Management (1957)
B.S., University of Utah, 1956; M.B.A., Harvard Business School, 1954.

R. Kent Fielding .... Assistant Professor of History (1952)
B.S., M.S., Brigham Young University, 1950, 1952.

D. Allen Firmage .... Associate Professor of Engineering (1955)
B.S.C.E., University of Utah, 1940; M.S., Massachusetts Institute of Technology, 1941.

*__Albert L. Fisher__ .... Assistant Professor of Geography (1954)
B.S., University of Utah, 1951; M.A., Ph.D., Johns Hopkins University, 1952, 1954. (On leave for post-doctoral study.)

H. Alvah Fitzgerald .... Instructor in Religion (1956)
B.S., M.S., Brigham Young University, 1928, 1930.

Chad J. Flake .... Instructor in Library Science (1953)
B.A., Brigham Young University, 1953; M.A., University of Denver, 1955.

Royce P. Flandro .... Assistant Professor of Secondary Education (1953)
B.S., M.S., University of Utah, 1948, 1950.

Harvey Fletcher, Jr. .... Associate Professor of Mathematics (1953)
B.S., Massachusetts Institute of Technology, 1944; M.S., California Institute of Technology, 1948; Ph.D., Universiay of Utah, 1954.

Harvey Fletcher, Sr. .... Professor of Physics; Dean of the College of Physical and Engineering Sciences (1952)
B.S., Brigham Young University, 1907; Ph.D., Chicago University, 1911; hon. Sc.D., Columbia University, 1935; hon.Sc.D., Kenyon College, 1942; hon.Sc.D., Stevens Institute of Technology, 1942; hon.Sc.D., Case School of Applied Sciences, 1942; hon. Sc.D., University of Utah, 1944; hon.Sc.D., Brigham Young University, 1954.

Dean K. Fuhriman .... Professor of Engineering (1954)
B.S., M.S., Utah State Agricultural College, 1941, 1950; Ph.D., University of Wisconsin, 1952.

Glen S. Gagon .... Instructor in Education: Instruction (1956)
B.S., M.Ed., Brigham Young University, 1951, 1956.

LaVell C. Gamett .... Assistant Professor of Industrial Arts (1946)
B.S., Brigham Young University, 1935; M.S., University of Oregon, 1951.

Charles N. Gardner .... Instructor in Mechanical Engineering (1957)
B.S., University of California (Berkeley), 1943.

Elizabeth L. Gardner .... Instructor in Clothing and Textiles and in Housing and Design (1952)
B.S., Utah State Agricultural College, 1948; M.S., University of California at Los Angeles, 1954.

John H. Gardner .... Associate Professor of Physics (1949)
B.S., Utah State Agricultural College, 1943; M.A., Ph.D., Harvard University, 1947, 1950.

Crawford Gates .... Associate Professor of Music (1948)
B.A., San Jose State College, 1944; M.A., Brigham Young University, 1948; Ph.D., Eastman School of Music, University of Rochester, 1954.

David D. Geddes .... Assistant Professor of Physical Education and Health (1952)
B.S., M.S., Brigham Young University, 1950, 1952.

O. Norman Geertsen .... Assistant Professor of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.

*M. Carl Gibson .... Instructor in Modern and Classical Languages (1949)
B.A., M.A., Brigham Young University, 1947; 1949. (On leave for further graduate work at University of Oregon.)

Preston R. Gledhill .... Associate Professor of Speech (1947)
Degré Supérieur, La Sorbonne, 1938; B.A., Brigham Young University, 1939; M.A., Louisiana State University, 1940; Ph.D., University of Wisconsin, 1951.

Geraldine S. Glover .... Instructor in Physical Education and Dance (1954)
B.S., University of Utah, 1954.

J. Rex Goates .... Professor of Chemistry (1947)
B.S., Brigham Young University, 1942; Ph.D., University of Wisconsin, 1947.

Nan Osmond Grass .... Instructor in English (1951)
B.A., Brigham Young University, 1930; M.A., Stanford, 1954.

*John A. Green .... Instructor in Modern Languages (1955)
B.A., M.A., Brigham Young University, 1954, 1955. (On leave for further graduate study at the University of Washington.)

Jesse W. Grimes .... Assistant Professor of Educational Research and Services (1956)
B.S., Brigham Young University, 1941; M.S., Utah State Agricultural College, 1956.

Capt. Philip L. Grindstaff .... Assistant Professor of Air Science (1955)
B.S., Brigham Young University, 1950.

Lue S. Groesbeck .... Instructor in Music (1957)
B.A., Brigham Young University, 1948.

Stewart L. Grow .... Professor of History and Political Science (1947)
B.S., M.S., Brigham Young University, 1935, 1948; Ph.D., University of Utah, 1954.

Donworth Gubler .... Instructor in Modern Languages (1954)
B.A., M.A., Brigham Young University, 1948, 1949.

Norman Gulbrandsen .... Assistant Professor of Music (1951)
B.S., University of Utah, 1942; M.M., Northwestern University, 1948.

Richard L. Gunn .... Associate Professor of Art and Education (1948)
B.S., M.S., Brigham Young University, 1947, 1950; Ed.D., Stanford University, 1955.

LeRoy R. Hafen .... Professor of History (1954)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1919; Ph.D., University of California, 1924; Litt.D., University of Colorado, 1935.

William J. Hafen .... Instructor in Physical Education; Director of Intramurals (1954)
B.S., Brigham Young University, 1950; M.A., State College of Washington, 1953.

Richard W. Hales .... Associate Professor of Physics (1952)
B.S., Iowa State College, 1946; Ph.D., University of California, 1952.

Wayne B. Hales .... Professor of Physics and Mathematics (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1922; Ph.D., California Institute of Technology, 1926.

Major David B. Hall .... Assistant Professor of Air Science (1955)
B.S., Brigham Young University, 1942.

H. Tracy Hall .... Professor of Chemistry; Director of the Research Division (1955)
B.S., M.S., Ph.D., University of Utah, 1942, 1943, 1948.

Merrill J. Hallam .... Associate Professor of Agronomy (1952)
B.A., Brigham Young University, 1950; Ph.D., Iowa State College, 1952.

John R. Halliday .... Professor of Music (1936)
B.A., M.A., Brigham Young University, 1935, 1936; Ph.D., Eastman School of Music, University of Rochester, 1941.

Lawson D. Hamblin .... Acquisition Librarian (1948)
B.A., Brigham Young University, 1938; LL.B., Washington College of Law, 1948.

M./Sgt. Morch O. Hancock .... Instructor in Air Science (1957)
B.A., University of Philippines, 1956.

George H. Hansen .... Professor of Geology and Geography (1927)
B.S., Utah State Agricultural College, 1918; M.S., Ph.D., George Washington University, 1925, 1927.

Harold I. Hansen .... Professor of Speech (1952)
B.S., Utah State Agricultural College, 1937; M.A., Ph.D., State University of Iowa, 1940, 1949.

Ralph Hansen .... Archivist-Assistant Reference Librarian (1953)
B.A., M.A., Brigham Young University, 1951, 1954.

Kenneth R. Hardy .... Assistant Professor of Psychology (1954)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., University of Michigan, 1954.

James M. Harris .... Assistant Professor of Educational Psychology (1955)
B.S., M.S., Utah State Agricultural College, 1952, 1953; Ph.D., Cornell University, 1955.

Maurine Harris .... Instructor in Nursing (1955)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1948; B.S., University of Utah, 1949.

Bertrand F. Harrison .... Professor of Botany (1929)
B.S., M.S., Brigham Young University, 1930, 1931; Ph.D., University of Chicago, 1937.

Charles J. Hart .... Professor of Recreation and of Physical and Health Education; Assistant to the Dean of the College of Recreation, Physical and Health Education and Athletics (1925)
B.S., Utah State Agricultural College, 1922; M.A., Ed.D., New York University, 1932, 1945.

Edward L. Hart .... Associate Professor of English (1952)
B.S., University of Utah, 1939; M.A., University of Michigan, 1941; D. Phil., Oxford University (England), 1950.

Milton F. Hartvigsen .... Professor of Physical Education; Dean of the College of Recreation, Physical and Health Education and Athletics (1956)
B.S., M.Ed., Utah State Agricultural College, 1930, 1939; Ed.D., University of California at Los Angeles, 1956.

Floyd E. Haupt .... Instructor in Mathematics (1954)
B.S., M.S., University of Arizona, 1947, 1948.

Franklin R. Haymore .... Manager, University Press (1939)
B.S., Brigham Young University, 1939.

C. Lynn Hayward .... Professor of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D., University of Illinois, 1941.

Alma Heaton .... Assistant Professor of Physical Education and Recreation (1953)
B.S., M.S., Utah State Agricultural College, 1950, 1951.

Israel C. Heaton .... Professor of Recreation (1956)
B.S., M.S., Utah State Agricutural College, 1940, 1941; Ed.D., University of Indiana, 1955.

Lynn M. Hilton .... Associate Professor of Education; Assistant to the Dean of Adult Education and Extension Services (1953)
B.S., M.S., University of Utah, 1950; Ph.D., University of Chicago, 1952.

Lehi F. Hintze .... Associate Professor of Geology (1955)
B.A., University of Utah, 1941; M.A., Ph.D., Columbia University, 1949, 1951.

Harry Hodson .... Professor of Civil Engineering (1953)
B.Sc., B.E., University of Sydney, 1938, 1940.

Leona Holbrook .... Professor of Physical Education (1937)
B.S., University of Utah, 1929; M.A., Ed.D., Columbia University, 1935, 1950.

A. Burt Horsley .... Instructor in Religion (1956)
B.A., M.A., Brigham Young University, 1945, 1954; Dd.P., Münster University, 1955; Ph.D., Westphalian Welhelms Universität, Münster, Germany, 1956.

Frank Horton .... Instructor in English (1955)
B.A., Brigham Young University, 1951.

Robert J. Howell .... Associate Professor of Psychology (1952)
B.A., M.A., Ph.D., University of Utah, 1948, 1949, 1951.

Gordon D. Hoyt .... Assistant Professor of Physics (1954)
B.S., M.A., Ph.D., University of Michigan, 1939, 1941, 1950.

Jay B. Hunt .... Assistant Professor of History and Political Science (1950)
B.A., M.A., Ph.D., University of Utah, 1947, 1948, 1950.

Reed M. Izatt .... Assistant Professor of Chemistry (1956)
B.S., Utah State Agricultural College, 1951; Ph.D., Pennsylvania State University, 1954.

LeRoy E. Jackson .... Stockroom Laboratory Assistant in Bacteriology (1956)
B.S., Brigham Young University, 1955.

***Briant S. Jacobs** .... Professor of English (1946)
B.A., Brigham Young University, 1939; Ph.D., State University of Iowa, 1944. (On leave for post-doctoral study at the University of Minnesota.)

Agnes Jahraus .... Assistant Professor of Nursing (1954)
Diploma, University of Minnesota, 1946; B.A., Jameston College, Jamestown, N.D., 1937; M.A., Teachers College, Columbia University, 1954.

M. Wells Jakeman .... Associate Professor of Archaeology (1946)
B.A., University of Utah, 1931; M.A., University of Southern California, 1932; Ph.D., University of California, 1938.

Martha R. Jenny .... Associate Professor of Nursing (1952)
Diploma, Presbyterian Hospital School of Nursing, Chicago, 1926; B.S., Teachers College, Columbia University, 1939; M.S., University of Wisconsin, 1946.

Janice C. Jensen .... Instructor in Nursing (1956)
Diploma, Thomas Dee Memorial Hospital, 1953; B.S., University of Utah, 1956.

Lucille N. Jensen .... Instructor in Human Development and Family Relationships (1956)
B.S., University of Utah, 1951; M.S., Kansas State College, 1956.

Mary B. Jensen .... Instructor in Physical Education and Recreation (1953)
B.A., Park College of Missouri, 1939.

Vern H. Jensen .... Assistant Professor of Personnel and Guidance (1949)
B.S., M.S., Brigham Young University, 1948, 1950.

Edgar M. Jenson .... Professor of Education (1927)
B.A., M.A., Brigham Young University, 1916, 1919.

Gloria D. Jenson .... Instructor in Library Science (1954)
B.S., Brigham Young University, 1950; M.S., Columbia University, 1954.

*__Ethel Lee Jewell__ .... Instructor in Food and Nutrition (1953)
B.S., University of Utah, 1946; (On leave for further graduate work at Iowa State University.)

J. Lorin Jex .... Instructor in Speech (1949)
B.A., M.A., Brigham Young University, 1947, 1950.

Franz M. Johansen .... Instructor in Art (1956)
B.A., Brigham Young University, 1955.

Eldred A. Johnson .... Assistant Professor of Accounting (1955)
B.A., M.A., Brigham Young University, 1949, 1950; C.P.A., California, 1952.

*__Garth N. Jones__ .... Assistant Professor of Political Science (1953)
B.S., Utah State Agricultural College, 1947; M.S., Ph.D., University of Utah, 1948, 1954. (On leave to accept position as public administration education officer, United States International Cooperative Administration in Indonesia.)

Jens J. Jonsson .... Professor of Electrical Engineering (1953)
B.S.G.E., B.S.E.E., University of Utah, 1944, 1946; M.S.E.E., Ph.D., Purdue University, 1947, 1951.

Eleanor Jorgensen .... Assistant Professor of Clothing and Textiles (1949)
B.S., Brigham Young University, 1946; M.S., Kansas State College, 1954.

Joseph J. Keeler .... Assistant Professor of Music; University Organist (1935)
B.S., M.A., Brigham Young University, 1940, 1950.

C. Rodney Kimball .... Instructor in Physical Education and Health (1937)
B.S., Brigham Young University, 1955.

Edwin R. Kimball .... Professor of Physical Education (1935)
B.S., Brigham Young University, 1926; M.S., University of Southern California, 1935; Ed.D., University of Oregon, 1955.

Alma W. King .... Assistant Professor of Religion; Dean of Students' Staff (1956)
B.S., M.S., Brigham Young University, 1930, 1936.

Hattie M. Knight .... Coordinator for Reader Services, Library (1941)
B.S., Brigham Young University, 1941; B.S., in L.S., University of Denver, 1943; M.S., in L.S., George Peabody College for Teachers, 1951.

Marion Kohler .... Instructor in Nursing (1954)
Diploma, Salt Lake General Hospital, 1943; B.S., Brigham Young University, 1951; M.N., University of Washington, 1957.

Eleanor S. Kondo .... Instructor in Food and Nutrition (1956)
B.A., Brigham Young University, 1954.

Harold W. Kopp .... Associate Professor of Physical Education; Head Football Coach (1956)
B.S., Northeastern University, 1939.

*__Mary A. Krider__ .... Assistant Professor of Education (1954)
B.A., University of Nebraska, 1927; Ed.M., University of Oklahoma, 1940. (On leave for further graduate work at Wayne University.)

Don H. Larsen .... Associate Professor of Bacteriology (1952)
B.S., Brigham Young University, 1940; M.A., University of Nebraska, 1942; Ph.D., University of Utah, 1950.

Vernon W. Larsen .... Assistant Professor of Sociology (1952)
B.A., M.A., Brigham Young University, 1949, 1950.

Clinton F. Larson .... Associate Professor of English (1947)
B.A., M.A., University of Utah, 1943, 1947; Ph.D., University of Denver, 1956.

Gustive O. Larson .... Assistant Professor of Church History and Philosophy (1954)
B.A., M.A., University of Utah, 1920, 1926.

*Reuben D. Law .... Professor of Education (1936)
B.S., M.S., Utah State Agricultural College, 1928, 1933; Ed.D., University of Southern California, 1941. (On leave as President of the Church College of Hawaii.)

Harold R. Laycock .... Assistant Professor of Music (1949)
B.A., M.A., Brigham Young University, 1937, 1947.

Ralph G. Laycock .... Assistant Professor of Music (1953)
B.A., Brigham Young University, 1941; M.S., Juilliard School of Music, N.Y.C., 1948.

Robert L. Layton .... Assistant Professor of Geography (1954)
B.S., M.S, University of Utah, 1951, 1952.

Robert L. Leake .... Instructor in Physical Education (1956)
B.S., Brigham Young University, 1955.

Harold W. Lee .... Professor of Modern Languages (1937)
B.A., M.A., Brigham Young University, 1938, 1940; Ph.D., Stanford University, 1946.

*R. Celdon Lewis .... Instructor in Geology (1953)
B.S., Brigham Young University, 1950; M.S., University of Minnesota, 1953. (On leave.)

Stella Dixon Lewis .... Instructor in Economics and Management of the Home (1956)
B.S., Brigham Young University, 1938.

Wesley P. Lloyd .... Professor of Philosophy of Education; Dean of Students (1935)
B.S., M.S., Brigham Young University, 1927, 1934; Ph.D., University of Chicago, 1937.

Howard D. Lowe .... Professor of Finance and Banking (1947)
B.S., M.A., Brigham Young University, 1945, 1948; C.P.A., Utah, 1949.

Daniel H. Ludlow .... Associate Professor of Religion (1955)
B.S., Utah State Agricultural College, 1946; M.S., Indiana University, 1953; Ed.D., Columbia University, 1955.

Mary Lythgoe .... Instructor in English (1956)
B.S., M.A., University of Utah, 1953, 1956.

Ross "J" McArthur .... Assistant Professor of Industrial Arts (1956)
B.S., M.S., Utah State Agricultural College, 1949, 1953; Ed.D., University of Missouri, 1955.

Velma J. McBride .... Instructor in Nursing (1956)
Diploma, San Bernardino Valley College of Nursing, 1950; B.S., University of California at Los Angeles, 1954.

Cleo McCracken .... Instructor in Personnel and Guidance (1954)
B.S., Utah State Agricultural College, 1937; M.A., Syracuse University, 1951.

John E. McKendrick .... Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1942, 1949.

Lynn A. McKinlay .... Special Instructor in Speech (1955)
Certificate, Post Graduate Certificate, Pasadena Community Playhouse, College of Theatre Arts, 1936, 1937.

Kent H. McKnight .... Assistant Professor of Botany (1947)
B.S., M.S., Brigham Young University, 1948, 1952; Ph.D., University of Michigan, 1955.

Delbert H. McNamara ... Assistant Professor of Mathematics and Physics (1955)
B.S., Ph.D., University of California, 1947, 1950.

Melvin P. Mabey .... Assistant Professor of History and Political Science (1955)
B.S., M.A., Brigham Young University, 1947, 1953; D. Phil., Oxford University England), 1955.

Harold S. Madsen .... Instructor in English (1957)
B.A., University of Utah, 1953.

Georgia Maeser .... Assistant Professor of Elementary Education (1927)
B.S., Brigham Young University, 1928; M.A., Columbia University, 1938.

Milton Marshall .... Professor of Physics (1919)
B.A., Brigham Young University, 1918; Ph.D., University of Chicago, 1924.

John R. Martinez .... Instructor in History (1956)
B.A., Brigham Young University, 1950; M.A., Ph.D., University of California (Berkeley), 1953, 1956.

Daniel L. Martino .... Associate Professor of Music (1956)
B.S., M.A., University of Minnesota, 1938, 1945.

Conan E. Mathews .... Associate Professor of Art (1956)
B.A., College of Idaho, 1936; M.F.A., University of Utah, 1950.

Merlin J. Mecham .... Associate Professor of Speech (1954)
B.A., Brigham Young University, 1948; M.S., Utah State Agricultural College, 1949; Ph.D., Ohio State University, 1954.

Richard L. Meibos .... Instructor in Chemistry (1955)
B.A., Brigham Young University, 1952.

Evan J. Memmott .... Instructor in Education (1955)
B.S., M.S., Utah State Agricultural College, 1950, 1952; M.S., Indiana University, 1953.

Seymour Mikkelsen .... Instructor in Animal Husbandry (1956)
B.S., Brigham Young University, 1948.

Martin L. Miller .... Assistant Professor of Physics and Mathematics (1942)
B.A., M.A., Brigham Young University, 1942, 1950.

Albert O. Mitchell .... Professor of Speech and Dramatic Arts (1956)
B.S., M.S., University of Utah, 1933, 1935; Ph.D., University of Wisconsin, 1938.

J. C. Moffitt .... Professor of Education (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.

*J. Weldon Moffitt .... Assistant Professor of Psychology (1953)
B.S., Brigham Young University, 1949; M.S., University of Utah, 1950; Ph.D., University of Illinois, 1952.

Darrel J. Monson .... Associate Professor of Electrical Engineering (1956)
B.S., University of Utah, 1943; M.S., University of California (Berkeley), 1952.

Samuel C. Monson .... Associate Professor of English (1952)
B.S., Utah State Agricultural College, 1941; M.A., Ph.D., Columbia University, 1948, 1953.

Alonzo J. Morley .... Professor of Speech (1928)
B.A., M.A., Brigham Young University, 1925, 1931; Ph.D., University of Iowa, 1935.

Jeannette Morrell .... Instructor in English (1956)
B.A., M.A., University of Utah, 1933, 1935.

A. Reed Morrill .... Professor of Educational Administration (1948)
B.S., M.S., Brigham Young University, 1928, 1937; Ed.D., University of Oregon, 1948.

Lawrence Morris .... Professor of Animal Husbandry (1952)
B.S.A., University of Arizona, 1925; M.S., Texas A. & M., 1928; Ph.D., Louisiana State University, 1938.

E. Lorene Munk .... Instructor in Library Science (1956)
B.S., Utah State Agricultural College, 1952; M.S., University of Southern California, 1953.

J. Richard Murdock .... Assistant Professor of Botany (1952)
B.S., M.S., Brigham Young University, 1949, 1951; Ph.D., State College of Washington, 1957.

Clark W. Nelson .... Manager, Photo Studio (1956)
B.S., Brigham Young University, 1951.

Glen T. Nelson .... Associate Professor of Economics (1954)
B.S., M.S., Utah State Agricultural College, 1942, 1948; Ph.D., University of Illinois, 1950.

Capt. Keith J. Nelson .... Assistant Professor of Air Science (1954)
B.S., Utah State Agricultural College, 1950.

K. LeRoi Nelson .... Associate Professor of Chemistry (1956)
B.S., Utah State Agricultural College, 1948; Ph.D., Purdue University, 1952.

Hugh W. Nibley .... Professor of History and Religion (1946)
B.A., University of California at Los Angeles, 1934; Ph.D., University of California, 1938.

Henry J. Nicholes .... Associate Professor of Zoology (1946)
B.A., Brigham Young University, 1935; M.S., Ph.D., University of Wisconsin, 1939, 1941.

Joseph K. Nicholes .... Professor of Chemistry (1933)
B.A., Brigham Young University, 1916; M.A., Stanford University, 1924.

T./Sgt. Alfred C. Nielsen .... Instructor in Air Science (1954)

Fred K. Nielsen .... Instructor in Mathematics (1956)
B.A., M.A., Harvard University, 1954, 1955.

Eve Nielson .... Catalog Librarian (1949)
B.S., Utah State Agricultural College, 1945.

Quentin R. Nordgren .... Assistant Professor of Music (1955)
B.A., M.A., Brigham Young University, 1942, 1950; Ph.D., Indiana University, 1955.

Keith R. Oakes .... Associate Professor of Educational Values and Programs (1957)
B.S., M.S., Utah State Agricultural College, 1940, 1948; Ed.D., University of Southern California, 1954.

J. Lloyd Olpin .... Assistant Professor of Mathematics (1955)
B.S., Brigham Young University, 1925; M.S., Colorado University, 1938.

Ernest L. Olson .... Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1948, 1949.

Scott G. Orrock .... Instructor in Personnel and Guidance (1955)
B.A., M.A., Brigham Young University, 1952, 1953.

Kathryn B. Pardoe .... Assistant Professor of Speech (1947)
B.A., Brigham Young University, 1934.

Clyde A. Parker .... Assistant Professor of Personnel and Guidance (1953)
B.S., M.S., Brigham Young University, 1952.

Mary H. Parsons .... Instructor in Nursing (1955)
B.S., Utah State Agricultural College, 1953.

*__Robert C. Patch__ .... Instructor in Religion (1949)
B.A., University of New Mexico, 1945; M.Th., Brigham Young University, 1949. (On leave for further graduate work at University of California at Los Angeles.)

John W. Payne .... Assistant Professor of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.

*__Glenn Pearson__ .... Instructor in Religion (1951)
B.S., Utah State Agricultural College, 1949; M.A., Brigham Young University, 1951. (On leave for further graduate work at University of California at Los Angeles.)

Dale C. Perry .... Instructor in Civil Engineering (1957)
B.S.C.E., University of Utah, 1953; M.S.C.E., University of California (Berkeley), 1956.

Dean A. Peterson .... Associate Professor of Business Education and Office Management (1942)
B.S., Brigham Young University, 1938; M.S., University of Southern California, 1942.

Hugh W. Peterson .... Associate Professor of Chemistry (1927)
B.A., M.A., Brigham Young University, 1916, 1928; Ph.D., State University of Iowa, 1936.

Marion C. Pfund .... Professor of Food and Chemistry; Dean of the College of Family Living (1954)
B.S., Simmons College, 1919; M.A., Vassar College, 1921; Ph.D., Yale University, 1928.

Guy Pierce .... Instructor in Industrial Arts (1953)
B.S., Brigham Young University, 1953.

Richard D. Poll .... Professor of History and Political Science (1948)
B.A., M.A., Texas Christian University, 1938, 1939; Ph.D., University of California, (Berkeley), 1948.

J. Perry Polson .... Assistant Professor of Business Education and Office Management (1952)
B.S., M.S., University of Utah, 1947, 1952.

A. Smith Pond .... Professor of Economics; Dean of the Graduate School (1937)
B.A., University of Utah, 1926; Ph.D., Northwestern University, 1942.

Blaine M. Porter .... Professor of Human Development and Family Relationships (1955)
B.S., M.A., Brigham Young University, 1947, 1949; Ph.D., Cornell University, 1952.

Margaret Schow Potter .... Assistant Professor of Clothing and Textiles (1946)
B.S., Brigham Young University, 1939; M.S., Oregon State College, 1949.

Norma Potter .... Instructor in Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1931; B.S., University of Utah, 1950.

Virginia B. Poulson .... Assistant Professor of Homemaking Education (1950)
B.S., Brigham Young University, 1931; M.Ed., Colorado A. & M., 1955.

Victor W. Purdy .... Periodicals Librarian (1954)
B.S., Brigham Young University, 1952; M.S., Columbia University, 1955.

***Ellis T. Rasmussen** .... Instructor in Religion (1951)
B.S., M.A., Brigham Young University, 1942, 1951. (On leave for further graduate study at Dropsie College, Philadelphia, Pa.)

M./Sgt. Ernest L. Ray .... Instructor in Air Science (1955)

Jesse W. Reeder .... Assistant Professor of History and Political Science (1952)
B.S., M.S., Utah State Agricultural College, 1934, 1937; Ph.D., Cornell University, 1952.

Howard T. Reid .... Professor of Personnel and Guidance; Assistant Dean of Students (1953)
B.A., Brigham Young University, 1940; M.S., Ed.D., University of Southern California, 1947, 1949.

Ernest F. Reimschiissel .... Instructor in Horticulture and Horticultural Specialties (1942)
B.A., M.S., Brigham Young University, 1940, 1951.

Leonard W. Rice .... Professor of English; Dean of College of Humanities and Social Sciences (1942)
B.A., Brigham Young University, 1941; M.A., Ph.D., University of Washington, 1943, 1950.

Naoma Rich .... Coordinator for Technical Services, Library (1937)
B.S., Brigham Young University, 1931; Certificate in Library Science, Riverside Library Service School, 1932.

Owen S. Rich .... Instructor in Radio Speech (1950)
B.S., Brigham Young University, 1950; M.A., University of Southern California, 1953.

Russell R. Rich .... Associate Professor of Religion (1953)
B.S., Utah State Agricultural College, 1936; M.A., Brigham Young University, 1949; Ed.D., University of Wyoming, 1955.

Grant S. Richards .... Associate Professor of Animal Husbandry (1945)
B.S., M.S., Utah State Agricultural College, 1940, 1942.

Jed J. Richardson .... Instructor in Speech (1955)
B.S., M.S., Utah State Agricultural College, 1950, 1955.

Eldin Ricks .... Assistant Professor of Religion (1949)
B.S., Brigham Young University, 1941; M.A., University of Southern California, 1949.

Chauncey C. Riddle .... Assistant Professor of Religion and Philosophy (1952)
B.S., Brigham Young University, 1947; M.A., Columbia University, 1951.

J. Keith Rigby .... Assistant Professor of Geology (1953)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., Columbia University, 1952.

***Robert E. Riggs** .... Assistant Professor of Political Science (1955)
B.A., M.A., University of Arizona, 1952, 1953; Ph.D., University of Illinois, 1955. On leave for post-doctoral work at Council on Foreign Relations, New York City—Carnegie Research Fellowship.)

Burton W. Robinson .... Associate Professor of Clinical Psychology (1955)
B.S., M.S., Utah State Agricultural College, 1951; Ph.D., Purdue University, 1954.

Donald W. Robinson .... Assistant Professor of Mathematics (1956)
B.S., M.A, University of Utah, 1948, 1952; Ph.D., Case Institute of Technology, 1956.

Clarence F. Robison .... Assistant Professor of Physical and Health Education; Head Track Coach (1948)
B.S., Brigham Young University, 1949; M.S., University of Michigan, 1954.

Lewis M. Rogers .... Assistant Professor of Religion (1955)
B.S., Utah State Agricultural College, 1943; M.A., Ph.D., University of Southern California, 1952, 1956.

R. Max Rogers .... Professor of Modern Languages (1945)
B.A., M.A., Brigham Young University, 1940, 1942; Ph.D., Stanford University, 1951.

Ralph L. Rollins .... Associate Professor of Civil Engineering (1956)
B.S., M.S., Utah State Agricultural College, 1941, 1949; Ph.D., Iowa State College, 1954.

Antone K. Romney .... Professor of Educational Psychology; Assistant Dean of the College of Education (1945)
B.S., M.S., Brigham Young University, 1933, 1934; Ed.D., Stanford University, 1947.

Lawrence W. Sardoni .... Associate Professor of Music (1945)
B.A., M.A., Brigham Young University, 1935, 1946.

Morris A. Shirts .... Assistant Professor of Secondary Education (1952)
B.A., M.A., Brigham Young University, 1947, 1950; Ed.D., Indiana University, 1952.

R. Phil Shumway .... Assistant Professor of Animal Husbandry (1949)
B.S., Utah State Agricultural College, 1947; M.S., University of Minnesota, 1949.

Elbert R. Simmons .... Instructor in Zoology and Entomology (1956)
B.S., Utah State Agricultural College, 1941; M.A., State University of Iowa, 1943.

John M. Simonsen .... Associate Professor of Mechanical Engineering (1954)
B.S.M.E., University of Utah, 1950; M.S.M.E., Ph.D., Purdue University, 1952, 1955.

Arthur D. Slater .... Assistant Professor of Personnel and Guidance (1956)
B.S., Brigham Young University, 1948; M.S.W., Tulane University, 1950.

Lyman F. Smart .... Assistant Professor of English (1953)
B.A., Idaho State College, 1950; M.A., University of New Mexico, 1952.

Carol T. Smith .... Special Collections Librarian (1949)
B.A., Brigham Young University, 1940.

Oliver R. Smith .... Professor of Journalism (1938)
B.A., Brigham Young University, 1938; Ph.D., State University of Iowa, 1951.

***Richard L. Smith** .... Professor of Industrial Management (1947)
B.A., University of Utah, 1946; M.B.A., Northwestern University, 1947; C.P.A., Illinois, 1947; C.P.A., Utah, 1948; D.C.S., Harvard Graduate School of Business Administration, 1956. (On leave to act as director of the Exec. Dev. Inst. of Montreal, affiliated with McGill University.)

Robert J. Smith .... Professor of Accounting (1949)
B.S., Brigham Young University, 1948; M.B.A. Northwestern University, 1949; C.P.A., Illinois, 1949; C.P.A., Utah, 1950.

Wilford E. Smith .... Associate Professor of Sociology (1948)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D. University of Washington, 1953.

***Rulon N. Smithson** .... Instructor in French (1955)
B.A., M.A., Brigham Young University, 1954, 1955. (On leave for further graduate study at Columbia University.)

H. Wayne Soffe .... Assistant Professor of Physical Education (1938)
B.S., M.S., Brigham Young University, 1938, 1941; D.P.E., Indiana University, 1955.

Irene Osmond Spears .... Associate Professor of English (1936)
B.A., Brigham Young University, 1929; M.A., Ph.D., Stanford University, 1934, 1942.

Sidney B. Sperry .... Professor of Old Testament Languages and Literature; Director of Graduate Studies in Religion (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.

Russell Stansfield .... Assistant Professor of Business Education and Office Management (1947)
B.S., M.S., Brigham Young University, 1940, 1949.

Homer G. Statham .... Instructor in English (1955)
B.A., Mercer University, 1947; M.A., Brigham Young University, 1955.

Floyd C. (Tally) Stevens .... Instructor in Physical Education; Assistant Football Coach (1956)
B.S., University of Utah, 1949.

George Stewart .... Professor of Botany (1953)
B.S., Utah State Agricultural College, 1913; M.S., Cornell University, 1918; Ph.D., University of Minnesota, 1926.

Dan W. Stoddard .... Assistant Professor of Mathematics (1956)
B.S., M.S., Utah State Agricutural College, 1950, 1952.

Royal B. Stone .... Associate Professor of Scouting Education (1955)
B.S., University of Utah, 1926.

Lorraine Storey .... Instructor in Human Development and Family Relationships (1956)
B.S., M.S., Utah State Agricultural College, 1953, 1956.

Robert E. Struthers .... Instructor in Speech and Dramatic Arts (1953)
B.S., Utah State Agricultural College, 1949; M.S., Brigham Young University, 1953.

Howard C. Stutz .... Assistant Professor of Botany (1953)
B.S., M.S., Brigham Young University, 1940, 1951.

Albert D. Swensen .... Associate Professor of Chemistry (1947)
B.A., M.A., Brigham Young University, 1937, 1938; Ph.D., Louisiana State University, 1941.

Russel B. Swensen .... Professor of History (1933)
B.A., Brigham Young University, 1926; M.A., Ph.D., University of Chicago, 1931, 1934.

Joseph N. Symons .... Professor of Sociology (1953)
B.S., M.S., Utah State Agricultural College, 1927, 1932; Ph.D., University of Chicago, 1944.

Orea B. Tanner .... Associate Professor of English (1938)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1953.

Vasco M. Tanner .... Professor of Zoology and Entomology (1925)
B.A., Brigham Young University, 1915; M.A., University of Utah, 1920; Ph.D., Stanford University, 1925.

Wilmer W. Tanner .... Associate Professor of Zoology and Entomology (1949)
B.S., M.A., Brigham Young University, 1936, 1937; Ph.D., University of Kansas, 1949.

Charles Taylor .... Associate Professor of Psychology (1954)
B.Mus., A.B., Ph.D., Syracuse University, 1940, 1948, 1954.

Ethelyn Peterson Taylor .... Assistant Professor of Business Education and Office Management (1946)
B.S., Brigham Young University, 1937; M.A., Stanford University, 1949.

H. Darrel Taylor .... Associate Professor of Modern Languages (1948)
B.A., M.A., University of Arizona, 1947, 1948; Ph.D., University of Illinois, 1956.

Weldon J. Taylor .... Professor of Marketing; Dean, College of Commerce (1937)
B.S., Brigham Young University, 1934; M.B.A., Harvard Graduate School of Business Administration, 1937; Ph.D., Graduate School of Business Administration, New York University, 1955.

Robert K. Thomas .... Assistant Professor of English (1951)
B.A., Reed College, 1947; M.A., University of Oregon, 1949.

Woodruff C. Thomson .... Assistant Professor of English (1950)
B.A., M.A., University of Utah, 1938, 1949.

***Lucile Markham Thorne** .... Circulation Librarian (1950)
B.A., Brigham Young University, 1929. (On leave for further graduate study at the University of Southern California.)

Max D. Tolbert .... Instructor in Physical Education; Assistant Football Coach (1955)
B.S., Brigham Young University, 1952.

Lucile Layton Trost .... Instructor in Clothing and Textiles (1956)
B.S., Brigham Young University, 1940; M.S., Utah State Agricultural College, 1956.

Glen H. Turner .... Assistant Professor of Art (1947)
B.S., M.A., Brigham Young University, 1940, 1948.

Rodney Turner .... Instructor in Religion (1956)
B.A., M.A., Brigham Young University, 1949, 1953.

L. Elliott Tuttle .... Assistant Professor of Geography (1936)
B.S., M.S., Brigham Young University, 1938, 1948.

S. Lyman Tyler .... Assistant Professor of History; Director of Libraries (1952)
B.S., Ph.D., University of Utah, 1949, 1951.

Clarence Tyndall .... Assistant Professor of Education; Chairman of the Bureau of Audio-Visual Aids (1946)
B.S., Brigham Young University, 1941; M.A., Stanford University, 1952.

Lee B. Valentine .... Assistant Professor of Modern Languages (1938)
B.A., M.A., Brigham Young University, 1939, 1948.

Jay L. Van Noy .... Instructor in Physical Education; Head Baseball Coach (1957)
B.S., Utah State Agricultural College, 1950.

Leo P. Vernon .... Associate Professor of Chemistry (1954)
A.B., Brigham Young University, 1948; Ph.D., Iowa State College, 1951.

J. Homer Wakefield .... Assistant Professor of Music (1949)
B.S., M.S., M.A., Brigham Young University, 1924, 1933, 1950.

Lulu Wallace .... Instructor in Physical Education (1956)
B.S., Utah State Agricultural College, 1954.

Jean Anne Waterstradt .... Instructor in English (1945)
B.A., Brigham Young University, 1945; M.A., University of Southern California, 1955.

Arthur R. Watkins .... Professor of Modern Languages (1952)
B.A., M.A., Brigham Young University, 1941, 1942; Ph.D., Stanford University, 1948.

Stanley H. Watts .... Associate Professor of Physical Education; Head Basketball Coach (1947)
B.S., Brigham Young University, 1938.

*__Newell B. Weight__ .... Assistant Professor of Music (1948)
B.A., M.A., Brigham Young University, 1938, 1946. (On leave for further graduate study at University of California at Los Angeles.)

Kurt Weinzinger .... Instructor in Music (1956)
Music Diplomas, Academy of Music and Arts, Vienna, Austria, 1951, 1953.

Dale H. West .... Assistant Professor of English (1947)
B.A., Brigham Young University, 1940; M.A., University of Southern California, 1955.

Donna M. Weston .... Instructor in Nursing (1956)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1954; B. S., University of Utah, 1956.

J. Morgan White .... Instructor in Accounting (1953)
B.S., Brigham Young University, 1951; C.P.A., Utah, 1953.

Ernest J. Wilkins .... Associate Professor of Modern Languages (1953)
B.A., Brigham Young University, 1947; M.A., Ph.D., Stanford University, 1949, 1954.

Frank R. Wilkinson .... Assistant Professor of Psychology (1955)
B.A., University of Utah, 1948; M.A., University of Hawaii, 1950; Ph.D., Michigan State University, 1955.

S./Sgt. William K. Willden .... Instructor in Air Science (1956)

Annette Wilson .... Instructor in Nursing (1956)
B.S., University of Utah, 1954.

M. Lyman Wilson, Jr. .... Instructor in Industrial Management (1956)
B.A., Brigham Young University, 1954; M.B.A., Stanford University, 1956.

Marguerite L. Wilson .... Instructor in Education: Instruction (1956)
B.S., University of Utah, 1948; M.A., San Francisco State College, 1955.

Warren B. Wilson .... Associate Professor of Art and Education (1954)
B.S., Utah State Agricultural College, 1943; M.F.A., State University of Iowa, 1949.

John H. Wing .... Assistant Professor of Chemistry (1931)
B.S., M.S., Brigham Young University, 1926, 1934.

*__Arthur C. Wiscombe__ .... Instructor in Educational Values and Programs (1955)
B.S., Brigham Young University, 1952; M.Ed., Harvard University, 1954; M.A., Teachers College, Columbia University, 1955; Professional Diploma "Superintendent of Schools," Coumbia University, 1955. (On leave for further graduate study at Harvard University.)

Wendell H. Wiser .... Assistant Professor of Chemical Engineering (1955)
B.S., Ph.D., University of Utah, 1949, 1952.

Alan R. Witbeck .... Instructor in Physical Education (1955)
B.S., M.S., Brigham Young University, 1952, 1954.

Glena D. Wood .... Instructor in English (1952)
B.A., Brigham Young University, 1936; M.A., University of Kentucky, 1949.

Marilyn Wood .... Instructor in Physical Education (1956)
B.A., Brigham Young University, 1956.

Stephen L. Wood .... Assistant Professor of Zoology and Entomology (1956)
B.S., M.S., Utah State Agricultural College, 1946, 1948; Ph.D., University of Kansas, 1953.

Lael J. Woodbury .... Associate Professor of Speech (1954)
B.S., Utah State Agricultural College, 1952; M.A., Brigham Young University, 1953; Ph.D., University of Illinois, 1954.

Asahel D. Woodruff .... Professor of Educational Psychology; Dean of the College of Education (1949)
B.S., M.S., Brigham Young University, 1936, 1937; Ph.D., University of Chicago, 1941.

Ralph Woodward .... Assistant Professor of Music (1955)
University of Idaho, 1940; M.M., Cincinnati Conservatory of Music, 1948.

Golden L. Woolf .... Professor of Educational Administration (1934)
B.A., M.A., Brigham Young University, 1934, 1936; Ed.D., University of California, 1940.

E. Wayne Wright .... Instructor in Personnel and Guidance (1954)
B.A., M.A., Brigham Young University, 1952, 1953.

***David H. Yarn, Jr.** .... Assistant Professor of Theology and Philosophy (1950)
B.A., Brigham Young University, 1946; M.A., Columbia University, 1949. (On leave for further graduate study at Columbia University.)

Karl E. Young .... Professor of English (1930)
B.A., M.A., Oxford University (England), 1930, 1934.

(Names of faculty members on leave are marked with asterisks (*) in the departmental faculty listings.)

SPECIAL INSTRUCTORS OR LECTURERS

Katherine Barney, B.S., Special Instructor in Food and Nutrition
Helen R. Bateman, B.S., Special Instructor in Clothing and Textiles
Archibald F. Bennett, M.A., Special Instructor in Religion
Jacob Bos, Special Instructor in Music
Rulon Brough, Special Instructor in Machine Accounting
Merrill Bushnell, M.B.A., Special Instructor in Industrial Management
L. Odell Christensen, B.S., C.P.A., Special Instructor in Accounting
Lathair H. Curtis, B.A., Special Instructor in Journalism
Bonnie Dyer, B.S., Special Instructor in Food and Nutrition
Glen L. Enke, B.S., Consulting Engineer
George W. Fitzroy, Special Instructor in Piano
Carl Fuerstner, Special Instructor in Piano
D. Spencer Grow, M.S., Special Instructor in Finance and Banking
Ida S. Hamblin, B.S., Special Instructor in Food and Nutrition
Lee Knell, B.S., B. Arch., Special Instructor in Art
Elmer E. Nelson, Special Instructor in Piano
Elizabeth E. Porter, B.S., Special Instructor in Clothing and Textiles
DeLance W. Squire, B.S., C.P.A., Special Instructor in Accounting
Lynn Taylor, B.A., Special Instructor in Art and Housing and Design.
Irene Thomson, B. S., Special Instructor in Food and Nutrition
Sherrone R. Valentine, B.S., Consultant Instructor in Family Living
Helen W. Wakefield, B.S., Consultant Instructor in Family Living
Gwen Whitehead, B.A., Special Instructor in English

EXTENSION SERVICES — SPECIAL INSTRUCTORS OR LECTURERS

J. Edwin Baird, B.S., LL.B., Special Instructor in Religion
B. Harrison Barrus, B.S., M.Ed., Special Instructor in Religion
Hugh C. Bennion, B.S., M.S., Ed.D., Special Instructor in Educational Admin.
Lowell L. Bennion, B.A., Ph.D., Special Instructor in Religion

Ruth H. Biddulph, B.A., Special Instructor in English
James L. Bradley, B.S., M.S., Special Instructor in Religion
Melvin R. Brooks, B.A., M.A., Special Instructor in Religion
Claude J. Burtenshaw, B.S., M.S., Ph.D., Special Instructor in Political Science
W. Henry Chace, Special Instructor in Genealogy
Jay B. Christensen, B.S., M.S., Special Instructor in Religion
Henry E. Christiansen, Special Instructor in Genealogy
Pearson H. Corbett, B.S., M.S., Special Instructor in Religion
H. Clyde Davis, B.S., M.S., Special Instructor in Religion
Paul E. Felt, B.S., M.A., Special Instructor in Religion
George H. Fudge, Special Instructor in Genealogy
David E. Gardner, Special Instructor in Genealogy
Montchesney Gottfredson, B.A., M.A., Special Instructor in Religion
Stanley Gunn, B.S., M.S., Special Instructor in Religion
Charles D. Harland, Special Instructor in Genealogy
H. Bartley Heiner, B.S., M.S., Special Instructor in Religion
E. Preston Hyatt, B.S., M.S., Special Instructor in Geology
Carl Herbert Jacob, B.A., M.A., Special Instructor in Religion
Raymond F. Jones, B.A., Special Instructor in Genealogy
R. Lee Kenner, B.A., M.A., Special Instructor in Religion
Alfred H. Kopp, B.A., M.A., Special Instructor in Religion
Calvin D. McOmber, Jr., B.A., Special Instructor in Religion
J. Keith Melville, B.A., M.A., Ph.D., Special Instructor in History and Church History
Fred K. Miller, B.S., Special Instructor in Education and Industrial Arts
Marriner D. Morrell, LL.B., Special Instructor in Education
Berkley H. Parkinson, M.A., Special Instructor in Physical Education
Oliver H. Parson, B.S., M.A., Special Instructor in Art
Benjamin J. Rencher, B.S., Ph.D., Special Instructor in Agriculture
Howard E. Salisbury, B.A., Special Instructor in English Lit. and Languages
Arthur Silvester, B.S., M.S., Special Instructor in Psychology
Frank Smith, Special Instructor in Genealogy
J. Grant Stevenson, B.A., M.A., Special Instructor in Genealogy
Ezra S. Stucki, B.S., M.S. Special Instructor in Educational Administration
J. Kenneth Thatcher, B.S., M.Ed., Special Instructor in Educational Administration
Grant R. Thomas, B.S., M.S., Special Instructor in Marketing
Shirley Thomas, B.S., Special Instructor in Food and Nutrition
Clyde D. Tidwell, B.S., M.Ed., Special Instructor in Religion
Nicholas Van Alfen, B.A., M.A., Special Instructor in Religion
Arthur D. Wengreen, B.A., M.A., Special Instructor in Religion
Herbert C. Wright, B.A., M.A., Special Instructor in Religion

THE STAFF OF THE LABORATORY SCHOOLS

.... Director of the Laboratory Schools

.... Assistant Director of the Laboratory Schools for Curriculum and Teaching

.... Assistant Director of the Laboratory Schools for Operations

The Elementary School

Vern Brimley, Jr. .... Fifth Grade and Elementary Methods (1956)
B.S., Brigham Young University, 1956.

Jesse R. Brown .... Fifth Grade and Elementary Methods (1956)
B.S., M.Ed., Brigham Young University, 1949, 1956.

D. June Carlisle .... Second Grade and Elementary Methods (1956)

***Lillian A. Christensen** .... Second Grade and Elementary Methods (1950)
B.S., M.S., Brigham Young University, 1942, 1950. (On leave for further graduate study.)

Hazel Cook Clark .... Kindergarten and Elementary Methods (1952)
B.S., University of Utah, 1938.

Welsford H. Clark .... Sixth Grade and Elementary Methods (1956)
B.S., Brigham Young University, 1956.

Bertha Davidson .... Fourth Grade and Elementary Methods (1950)
B.S., M.S., Brigham Young University, 1950, 1954.

Thomas D. Kershaw .... Sixth Grade and Elementary Methods (1956)
B.S., Ricks College, 1955; M.S., Brigham Young University, 1956.

Elva Killian Miller .... Third Grade and Elementary Methods (1955)
B.S., Brigham Young University, 1947.

Mima Rasband .... First Grade and Elementary Methods (1952)
B.S., M.S., Brigham Young University, 1937, 1950.

Sadie Rogers .... Fourth Grade and Elementary Methods (1956)
B.S., M.S., University of Utah, 1941, 1953.

J. Kenneth Williams .... Sixth Grade and Elementary Methods (1956)
B.S., Brigham Young University, 1948.

The Secondary School

Verl Allman .... Biological Sciences (1950)
B.S., M.S., Brigham Young University, 1948, 1952.

Wallace E. Allred .... Mathematics (1956)
B.S., Brigham Young University, 1956.

Leland E. Anderson .... Religion (1954)
B.S., M.A., University of Utah, 1927, 1928.

Grant D. Bendixsen .... Mathematics, Core-Curriculum (1954)
B.S., M.S., Brigham Young University, 1949, 1953.

June E. Berry .... Librarian (1948)
B.S., Brigham Young University, 1947; M.S., University of Utah, 1952.

Carolyn C. Bishop .... Commercial Subjects (1956)
B.S., Brigham Young University, 1956.

Melvin R. Brooks .... Religion (1955)
B.A., M.A., University of Utah, 1944, 1955.

Grant M. Bushman .... Physical Education, Athletics (1953)
B.S., Brigham Young University, 1948.

Faye J. Buttle .... Speech, Core-Curriculum (1951)
B.A., M.Ed., M.A., Brigham Young University, 1927, 1953, 1954.

Julia A. Caine .... History, Social Studies (1941)
B.S., Brigham Young University, 1925; M.A., Colorado State College of Education, 1950.

Joyce Chournos .... Physical Education (1956)
B.S., Utah State Agricultural College, 1953.

Max C. Golightly .... Speech (1956)
B.A., Brigham Young University, 1950.

Anna B. Hart .... English (1939)
B.S., Utah State Agricultural College, 1922; M.A., University of Southern California, 1933; M.Ed., George Peabody College for Teachers, 1949.

Betty Jo Hatton .... Home Economics (1956)
B.S., Brigham Young University, 1956.

George Horton .... Religion (1955)
B.S., Brigham Young University, 1953.

Don L. McConkie .... Core-Curriculum, Social Studies (1953)
B.S., M.S., Brigham Young University, 1927, 1942.

Parke Madson .... Commercial Subjects (1955)
B.S., Brigham Young University, 1951; M.B.A., Indiana University, 1954.

Winston Mercer .... English, French (1947)
B.A., Brigham Young University, 1942.

***Richard L. Pope** .... English (1955)
B.S., M.S., Brigham Young University, 1954, 1956. (On leave for further graduate study at Wayne University.)

L. Grant Shields .... Music (1954)
B.A., Brigham Young University, 1949.

E. Donald Snow .... Physical Education, Athletics (1950)
B.S., M.S., Brigham Young University, 1946, 1954.

***M. LeRoy Sparks** .... Commercial Subjects (1944)
B.S., Utah State Agricultural College, 1928. (On leave for further graduate study at Oregon State University.)

Fredrick N. Webb .... Vocal Music (1948)
B.A., M.A., Brigham Young University, 1933, 1954.

June G. Whiteford .... English (1955)
B.A., Michigan State Normal College, 1942; Certificate in Library Science, Gonzaga University, 1947.

Objectives

> . . . seek ye out of the best books words of wisdom:
> seek learning even by study, and also by faith.
>
> —Doctrine and Covenants, Sec. 88, v. 118

David O. McKay, President of the Church of Jesus Christ of Latter-day Saints, has stated that the following should be the objectives of a student at the Brigham Young University:

1. Become aware of one's own ignorance and gain humility in contemplating how infinite God's creations are.

2. Increase one's knowlelge, selecting those facts and truths which will be most valuable and realizing that exact and definite knowledge is always of the greatest possible value and importance to every individual who has the moral courage to use it rightly.

3. Learn that acquisition of knowledge will result only from personal effort, not from superficial study or shirking.

4. Realize the responsibility one has, because of free agency, of individual choice. The opportunity for rising above the plane of animal existence is open to all who will choose it.

5. Come to a knowledge that the purpose of life is not mere existence or pleasure or fame or wealth, but the perfection of humanity through individual achievement under the guidance of God's inspiration.

It has been the aim of the University to encourage students to realize these objectives, objectives closely allied to, and derived from, the basic philosophy of Mormonism: man, the son of God, is a free agent with unlimited possibilities for eternal development under God's guidance; a never-ending search for truth and for an understanding of the truth should be among the activities of those who aspire to perfection.

Brigham Young University Past and Present

History of the University

Founding and Philosophy. Brigham Young University was established pursuant to a deed of trust executed by Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, on October 16, 1875. That deed expressly set forth that the "pupils shall be instructed in . . . such branches as are usually taught in an academy of learning," and also "in the Old and New Testaments, the Book of Mormon and the Book of Doctrine and Covenants."

A group of seven persons appointed by President Young comprised the first Board of Trustees. They were Abraham O. Smoot, President of Utah Stake of the Church, which embraced all of Utah County, William Bringhurst of Springville, Leonard E. Harrington of American Fork, and Wilson H. Dusenberry, Martha J. Coray, Myron Tanner and Harvey H. Cluff of Provo, all prominent members of Utah Stake.

At a meeting November 22, 1875, the Board of Trustees organized the Academy. At that time the Timpanogos Branch of the University of Deseret had just been discontinued, and it was too late in the year to arrange a complete school year. Consequently the board decided to hold two preliminary terms of the Brigham Young Academy. Warren N. Dusenberry, who had been principal of the Timpanogos Branch, was selected to become principal of the Academy. After conducting the first preliminary term, which ended April 15, 1876, he resigned to practice law.

Ten days later, President Brigham Young, acting for the Board of Trustees, requested Dr. Karl G. Maeser, a convert to the Church from Germany, to come to his office. "Brother Maeser," said the President, "I have another mission for you. We have been considering the establishment of a Church school, and are looking around for a man—a man to take charge of it. You are the man, Brother Maeser. We want you to go to Provo to organize and conduct an Academy to be established in the name of the Church—a Church School."

A few days later, Dr. Maeser called at the office of President Young and said, "President Young, I am ready to go to Provo. What are my instructions?"

"Only this," replied the President. "I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the spirit of God. That is all. God bless you. Goodbye."

Dr. Maeser accepted this all-embracing charge, believing that the ultimate good in education could be summed up in the words of the Master: "Be ye perfect, even as your Father in Heaven is perfect." In one of his memorable sermons, Dr. Maeser stated the real purpose of the school by saying, "Not by bread alone, neither for bread alone does man live. There are higher objectives yet to be attained, other truths to be learned, and greater work to be done." Years later, consistent with that philosophy, the school adopted as its motto this revelation of the Lord: "The Glory of God is Intelligence."*

*Doctrine and Covenants, Section 93.

Administration of Karl G. Maeser. Karl G. Maeser served as principal of the Academy from April 24, 1876, to January 4, 1892, a period of 16 years.

He had received intensive training in the excellent German schools of his time. He was a graduate of the Dresden Gymnasium and of the normal schools of Friedrichstadt, Germany. At the time of his conversion to the Church, he was Vice-Director of the Budich Educational Institute at Dresden.

Neither Warren N. Dusenberry, nor Dr. Karl G. Maeser had much academic assistance at the beginning of school. When Dr. Maeser began his teaching at Brigham Young Academy, he was principal and the sole teacher of the twenty-nine students, most of them from Utah County.

The old Lewis Building, which stood on the corner of Third West and Center Streets, was the first home of the Brigham Young Academy. This building was later described by Justice George Sutherland of the United States Supreme Court, one of the Academy's first students, as being a "structure without beauty or grace or any other aesthetic feature calculated to invite a second look . . . It consisted of one large room and a stage—both so utterly bare and gloomy as to make inappropriate any form of entertainment except tragedy."

By 1882 this building was found to be inadequate for the needs of the school, and additional rooms were built from funds provided by A. O. Smoot, Harvey H. Cluff, Myron Tanner, and W. H. Dusenberry. However, this structure was entirely destroyed by fire January 27, 1884. Temporary quarters were obtained, and the school continued with the loss of only one day of school. During the summer of 1884 arrangements were made with Z.C.M.I. for the use of the upper floor and part of the lower floor of its warehouse on University Avenue.

Members of the Board of Trustees were appointed by Brigham Young until his death in 1877, when this responsibility fell upon his heirs.

The transition of the Brigham Young Academy into the University of the Church has been marked by periods of great financial distress. Brigham Young died before he had provided for the endowment of the institution. This left the school without any assured source of income.

In the early days of the school, when no funds for the budget could be found, the Board actually considered closing the Academy. It was then that Professor Maeser and his faculty showed their loyalty by teaching for anything they could get, including agricultural products, which were accepted from students in lieu of cash tuition.

President A. O. Smoot of Utah Stake was equally loyal. In the winter of 1887, to bolster up a shrinking enrollment, he asked each member in attendance at a stake priesthood meeting to pay the tuition of at least one student at the Academy. On leaving before the close of the meeting, he told the priesthood assembled that they might name the sum he should pay and he would abide by the decision. Members of the Academy faculty readily responded to the call. One faculty member, who was teaching his first year at a salary of twenty dollars per month, paid a quarter's tuition for one student.

On June 8, 1888, President Wilford Woodruff organized a General Board of Education of the Church, consisting of nine members. This Board directed the activities of the school, but the power of appointment of the Board of Trustees still remained with the heirs of Brigham Young until July 18, 1896, when, by the adoption of the Articles of Incorporation for the University, the right of appointment was granted to the First Presidency of the Church through the consent of the heirs of Brigham Young. By this action, the Church assumed the indebtedness of the institution and accepted the responsibility of maintaining Brigham Young University.

On January 4, 1892, the school was moved to what is now known as the Education Building, the first structure built especially for the University. Much of the $75,000 it cost was made available through the personal credit of President A. O. Smoot, a member of the Board of Trustees at that time.

Dr. Maeser's administration will be remembered primarily because of his masterful teaching. His legacy to the Church school system consisted of three ideals: (1) the acquirement of intelligence by academic studies; (2) the development of character; and (3) a reverence for the revealed word of God, together with a living testimony of the divinity of the messasge of the Church which he represented. He often stated that "no infidel" would go out from his school, and it is doubtful whether any did. His sermons were classics which lived with his students throughout their lives. He was the great spiritual architect of the school.

Adminisration of Benjamin Cluff. Benjamin Cluff, a former student of Karl G. Maeser, served as president from January 4, 1892, to December 23, 1903. He was one of the first native Utahns to earn a college degree, having received it from the University of Michigan in 1890. He influenced many young men and women to go to larger universities in pursuit of higher learning. Some of them later became teachers at the Brigham Young University.

His administration was effective in changing the school from one which was still largely a normal school, with a very small college department, to the University.

After 1892, President Cluff asked the Church authorities to provide another building to house the growing student body properly. As the Church was not prepared to furnish the money, Reed Smoot, chairman of the Executive Committee of the Board, took the initiative and secured a contribution of one thousand dollars each from Wilford Woodruff, George Quayle Cannon, Joseph Fielding Smith, Reed Smoot, Jesse Knight, Charles Edwin Loose, Alfred William McCune, Amanda Inez Knight, Stephen L. Chipman, and Jesse William Knight. The cost of the building exceeded ten thousand dollars, but Reed Smoot subscribed the additional amount to cover the expense. It was named College Building. Dedication was held in connection with commencement week in 1898.

The financial panic of 1893 further intensified the school's financial difficulties. Some of the real estate sold to clear part of the indebtedness had to be repossessed by the school, and $30,000 was supplied by the Church to be applied on its debts. President A. O. Smoot underwrote large notes of the school to keep it operating. On his death, the trustee-in-trust of the Church, in the interest of the heirs of the estate, agreed to underwrite all notes of the Academy bearing President Smoot's endorsement.

President Cluff was instrumental in founding an alumni association in June of 1893. He gave encouragement to student organization and activity. Early in his administration two school papers were begun; athletic sports such as football, basketball, and track were encouraged; and the school colors, blue and white, were chosen. He established the first summer school and added new departments and laboratories.

In 1894 the title of the head of Brigham Young Academy was changed from "Principal" to "President," and in 1903 the school became Brigham Young University.

In 1900 President Cluff sponsored a South American expedition to engage in archaeological study of Book of Mormon sites. While he was in South America, Acting President George H. Brimhall asked the authorities for a Church normal training school building with a gymnasium on the upper floor. Jesse Knight, a member of the Board of Trustees, volunteered a contribution of $15,000. The board promptly authorized the project. Other contributions were solicited with good results. The total cost of the Training School and Gymnasium Building was $35,000. The dedication service was held February 17, 1902.

Administration of George H. Brimhall. On April 16, 1904, after having acted as President of the University while Benjamin Cluff was in South America, George H. Brimhall was appointed President of the Brigham Young University. Joseph B. Keeler was appointed his first counselor and Edwin S. Hinckley his second counselor.

Dr. Brimhall also was a former student of Dr. Karl G. Maeser. He was a dynamic speaker and a great moulder of character. He continually stressed the fact that the primary purpose of the school was to make better Latter-day Saints.

The Missionary and Preparatory Building, later known as the Art Building and now as B.Y. High, was dedicated October 26, 1904. It cost $13,000, of which amount $9,000 was apportioned to four stakes: Utah, Alpine, Nebo and Wasatch.

In 1904, the students and faculty began negotiations for the purchase of seventeen acres of land known generally as Temple Hill. This land, purchased from Provo City about 1907 at a total cost of $1,000, was the beginning of the upper campus. A survey of the land purchased showed that about one and one-half acres at the point of the hill was not included in the deed given by Provo City. The students and faculty members of the school voluntarily raised an additional $1,000 to pay for this land.

This purchase provided a place for the Maeser Memorial Building, the cornerstone of which was laid on Founder's Day, 1909. It was ready for occupancy the fall term of 1911. The structure and furnishings cost $130,000; the Knight family contributed $65,000, and other members of the alumni some $50,000. The remainder of the cost was met through the sale of Blue Bench Irrigation Company Bonds owned by the school.

The Women's Gymnasium was erected in 1913; the Mechanic Arts Building in 1919.

On December 21, 1914, the late Jesse Knight made an endowment to the University of one hundred thousand dollars in six per cent bonds. The interest payments on these bonds, together with the payments on bonds which have matured, have been placed at interest, and the cash credit of this account now represents approximately twice the amount of the original endowment.

During President Brimhall's administration graduate work was introduced and the first master's degrees were conferred. The school spirit was furthered by the organization of the students into a student body. Printing of the school yearbook, **The Banyan,** was begun, and a huge white "Y" was placed on the mountainside east of Provo.

Dr. Brimhall served until July 1, 1921, a period of 17 years.

Administration of Franklin S. Harris. Franklin S. Harris, a former student of the institution under President George H. Brimhall, was selected to succeed his former President. Dr. Harris had received his Ph.D. degree from Cornell University in 1911 and had served as an instructor in the Juarez Academy and Cornell University, and as professor of agronomy for the Utah Experiment Station, director of the School of Agricultural Engineering and Mechanical Arts, and director of the Utah Experiment Station at the Utah State Agricultural College. He had a world-wide reputation as a scientist.

Dr. Harris became President July 1, 1921, and served until June 30, 1945, a period of 24 years, the longest term of any President. During his administration, academic gains of great significance were made. The University was organized into five colleges: Applied Sciences, Arts and Sciences, Commerce, Education, and Fine Arts; and the Division of Religion and the Extension Division were established. The Graduate School was formally organized and a dean of the Graduate School appointed. The Heber J. Grant Library was completed in 1925, the Y Stadium in 1929, and during the last ten years of his administration a building program was begun which has been accelerating ever since.

It was President Harris who first envisioned the present expanded upper campus of the University and indeed who made it possible by his extensive purchasing of lands surrounding the original upper campus.

In 1935 two stories were added to the Mechanic Arts Building to provide additional classrooms and laboratories. The name was changed to George H. Brimhall Building. During the year 1935-36, a Stadium House on the west side of the football field was erected. In 1937-38, Allen Hall, a men's dormitory, and in 1938-39, Amanda Knight Hall, a women's dormitory, were constructed. These accommodate 90 and 130 students, respectively. The construction of both buildings was financed by borrowing from the Knight Endowment Fund. The Joseph Smith Building was begun in 1939 and completed in 1941 as a project of the Church Welfare program. During 1943 the University acquired the National Youth Administration Building on the east part of the campus for use of the Mechanic Arts Department. In 1944, because of the acute housing problem created by the building of the Geneva Steel plant, it was equipped to serve as a temporary dormitory for women.

Administration of Howard S. McDonald. Howard S. McDonald, the next president of the University, served from July 1, 1945, to October 30, 1949. Before being appointed to this position he had served as assistant superintendent of schools in San Francisco and later as superintendent of Salt Lake City schools.

Under his leadership the school experienced a major expansion. From 1946 to 1948 the temporary women's dormitory at the southeast end of the campus was remodeled into what is now known as Social Hall, containing a large dance floor and classrooms and offices used by the Music Department. During the same period Knight-Mangum Hall, a four-level structure adjoining the Social Hall on the west, was constructed. This building provides housing and feeding accommodations for 280 women. Because of the enlarged, post-war student body, student housing facilities were greatly increased. In cooperation with the Federal Works program, temporary housing, known as Wymount Village, was constructed in 1946-47 near the eastern edge of the campus for 200 married veterans and 350 single veterans. Also under the Federal Works program of aid to education, temporary-type buildings were provided in 1946-47, consisting of the Physical Plant Building, Public Relations and Alumni Building, North Building, Industrial Arts Building, Wymount Dining Hall, and University Press. In 1948 The Speech Department was moved to the Upper Campus and housed in temporary buildings. Here the Brigham Young University broadcasting station, KBYU, is located. A central heating plant costing $200,000 was constructed in 1946. Upon completion of a project now under way for conversion of the present system to a high temperature water system, water at 375° will be pumped to the various buildings where it will be used to produce low pressure steam for the building systems.

Under President McDonald's direction the Eyring Science Center was begun and almost completed. Called by many educators the finest and most modern science building between the Mississippi and the Pacific Coast, it has four stories and contains approxmately 150,000 square feet of floor space (practically the equivalent of the space in all of the other buildings of the University previously constructed). It is equipped with the finest facilities for study and research. Moreover, it is proof of the Church's sincere belief that there is nothing inconsistent between scientific truth and the teachings of the Gospel.

During his administration the planning and architectural drawings of buildings for the University were assigned to a University architect. The buildings and grounds were placed under the direction of a superintendent of buildings and grounds.

In the post-war era of expanding collegiate enrollments, the Brigham Young University, under his direction, expanded at a much faster rate than many other universities of the country. The faculty was increased to meet the new need. The Graduate School and the Student Counseling Service were both reorganized. As was true with his predecessors, he upheld and perpetuated the spiritual ideals of the University's academic life.

Administration of Christen Jensen. Dr. Christen Jensen acted as president of the Brigham Young University during 1939-40 (when Dr. Harris spent a year in Iran) and again from November 1, 1949, until the early part of 1951. His two periods of administration were characterized by an emphasis on scholarship and a meticulous observance of proper University standards. In an era of dynamic university problems, President Jensen directed an administration characterized by academic and administrative stability and sound judgment. Under his direction the Eyring Science Center was completed and dedicated on October 23, 1950; the plans for the new George Albert Smith Fieldhouse were approved, a drive for funds conducted, and its construction practically completed at a cost of over $1,000,000. It provides, in addition to athletic and physical education facilities, offices for faculty members in the College of Recreation, Physical and Health Education, and Athletics. The building accommodates more than 11,000 persons, which makes it the largest auditorium in the intermountain west. It was during his administration that all members of the Quorum of Twelve became members of the Board of Trustees.

Administration of Ernest L. Wilkinson. In 1950 Dr. Wilkinson was selected by the Board of Trustees as the new president. He began his period of service in February, 1951.

After graduating from Brigham Young University, he was graduated from George Washington University Law School, where he received his LL.B. degree. He then attended Harvard Law School, where he obtained the degree of Doctor of Juridical Science. After graduation he accepted an appointment to teach at the New Jersey Law School as Professor of Law. Soon thereafter he was invited to become an associate in the New York City law firm of which the Hon. Charles Evans Hughes, later Chief Justice of the Supreme Court of the United States, was the senior member. Later, organizing his own firm in Washington, D. C., Dr. Wilkinson achieved a national reputation as a lawyer, climaxed by obtaining judgments of $32,000,000 for the Ute Indians, the largest judgments ever entered in the United States Court of Claims against the United States.

As a churchman, he has served as a bishop in the New York Stake and as a member of the stake presidency in the Washington Stake, and he has represented the Church on the National Commission for Army and Navy Chaplains, which approves chaplains appointed to the armed forces of the United States.

During his six years of service the University has experienced a 90 per cent increase in enrollment. In 1953, the University became the largest church-related institution of higher education in the United States. The faculty has witnessed an even larger proportionate increase in numbers, and the five colleges previously comprising the University have been increased to eight colleges, two schools, and two divisions:

Colleges of Biological and Agricultural Sciences, Commerce, Education, Family Living, Fine Arts, Humanities and Social Sciences, Physical and Engineering Sciences, and Recreation, Physical and Health Education and Athletics; Graduate School and School of Nursing; and Extension Services and Division of Religion.

In 1951, a Reserve Officer Training Corps unit of the Air Force was activated at the Brigham Young University. The officers of this unit have been selected by the Secretary of Air, with the approval of the President of the University. This unit is composed entirely of students regularly enrolled at the Brigham Young University, and the same standards of conduct and living are required of them as of other students at the University. In accordance with an agreement with the Federal government, a building was completed in October, 1952, which serves as a permanent rifle range for the R.O.T.C.

During the administration of President Wilkinson, the following new buildings and facilities, costing a total of more than $11,000,000, have been added to the facilities of the University:

The Herald R. Clark Student Service Center, begun in July 1952, was completed and made available for occupancy in March 1953. The financing of this building was primarily from income of the Student Supply over its years of operation. In the building are housed, in addition to the bookstore itself, the Adult Education and Extension Services, including the Audio-Visual Aids Department, the Studentbody offices and organizations, student publications, and student services such as employment, housing, and a post office.

The largest single building project ever undertaken on the BYU campus was started July 1952 with the construction of 16 buildings making up what is known as Heritage Halls. These buildings, completely modern in every respect, house 972 girls. Six girls live together in an apartment, preparing their own meals and doing their own housework. There are ten apartments to a building. Occupancy of the first of the buildings was begun in March 1953. The entire project was completed and fully occupied by the Fall Quarter of 1953.

The Engineering Building, constructed in 1953 and added to in 1954 and 1955, is an H-shaped building having four wings with laboratory space for the Civil, Mechanical, Electrical, and Chemical Engineering Departments. The central core of the building consists of offices serving the needs of the teaching staff.

In 1953 a motion picture building with sound stage and related facilities was constructed. This building is equipped with the most modern animation and motion picture sound equipment for the production of educational moving pictures used throughout the Church.

The David O. McKay Building, a classroom building containing 104 offices and 31 classrooms and laboratories, was begun in March 1954 and completed in December of that same year. This building currently houses the College of Education, the Departments of English, Modern Languages, History, and Political Science, and sections of the Department of Religion.

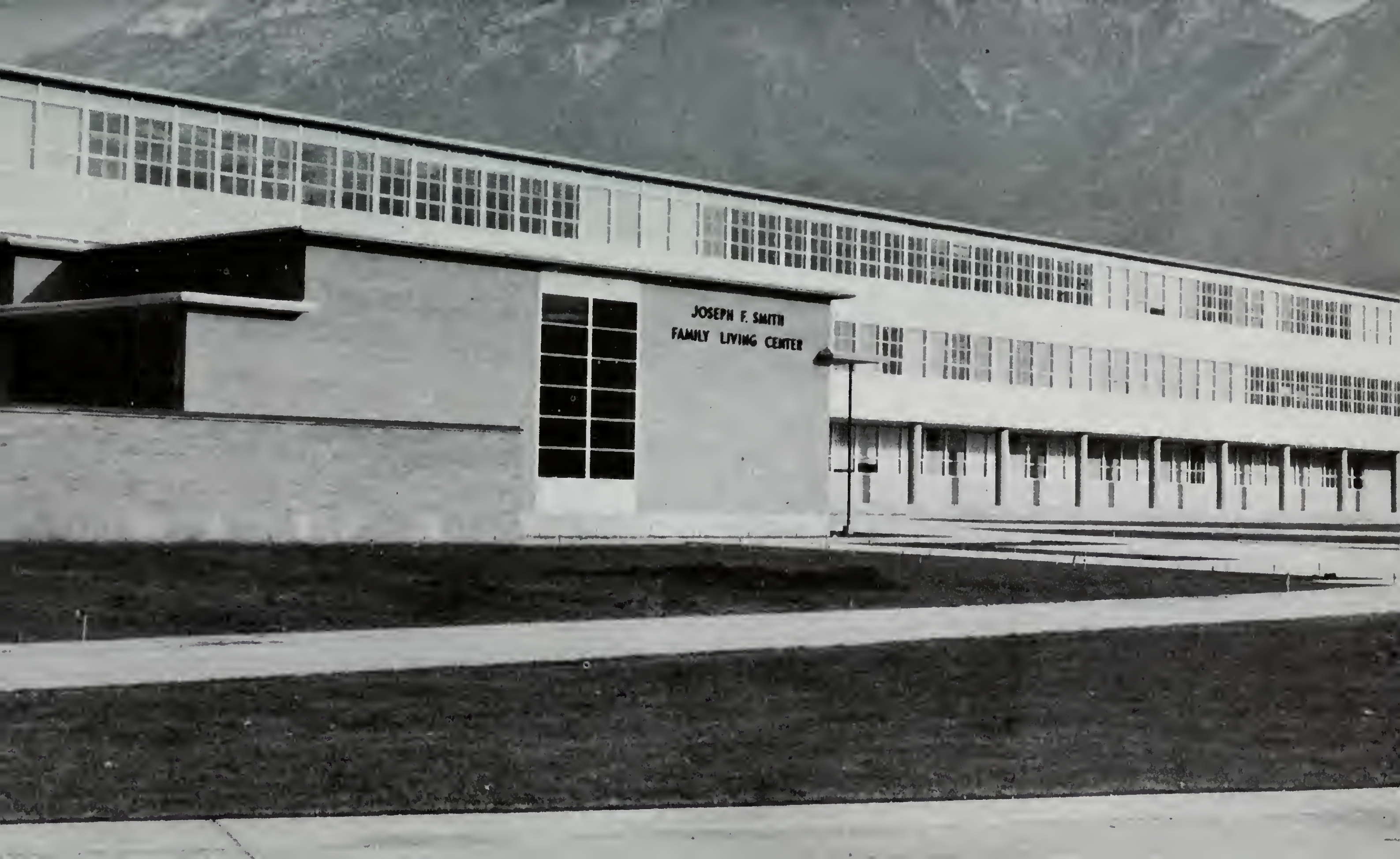
In the early spring of 1955, the Benjamin Cluff Botanical Laboratory, with two connecting greenhouses, was completed. This structure is used by the Botany, Agronomy, Horticulture and Horticultural Specialties Departments.

The Howard S. McDonald Student Health Center was opened for use of all students enrolled at the University in the fall of 1955. The lower floor of this structure is currently used as headquarters for the A.F.R.O.T.C.

Eight new buildings to house women students were added to the original 16 buildings of the Heritage Halls group. This project was started in August 1955. Two of the buildings were occupied in January 1956. The total project was completed in the summer of 1956 and was fully occupied for the Fall Quarter of that year. The addition of these eight structures brings the total accommodations for this type of housing for women to 1539.

Construction of the Joseph F. Smith Family Living Center began in the fall of 1955 and was completed in December 1956. Housed in this structure are the College of Family Living, the School of Nursing, a Nursery School, and the Departments of Psychology and Sociology.

Many new projects have been authorized by the Board of Trustees to keep pace with the ever expanding requirements of the University. These projects are in various stages of planning and development. Construction of the new Men's Residence Halls to house 1170 men is scheduled for early 1957. A project consisting of 150 homes for married students will be completed by the fall of 1957. Plans are proceeding rapidly on a new Administration and General Services building; a new library; a new Physical Education and Recreation Center, which, among other facilities, is to have swimming pools and a gymnasium for women; a student commons building; additional housing for single women and for married students; new structures and facilities for the agricultural departments; and new motion picture production facilities.


JOSEPH F. SMITH
FAMILY LIVING CENTER

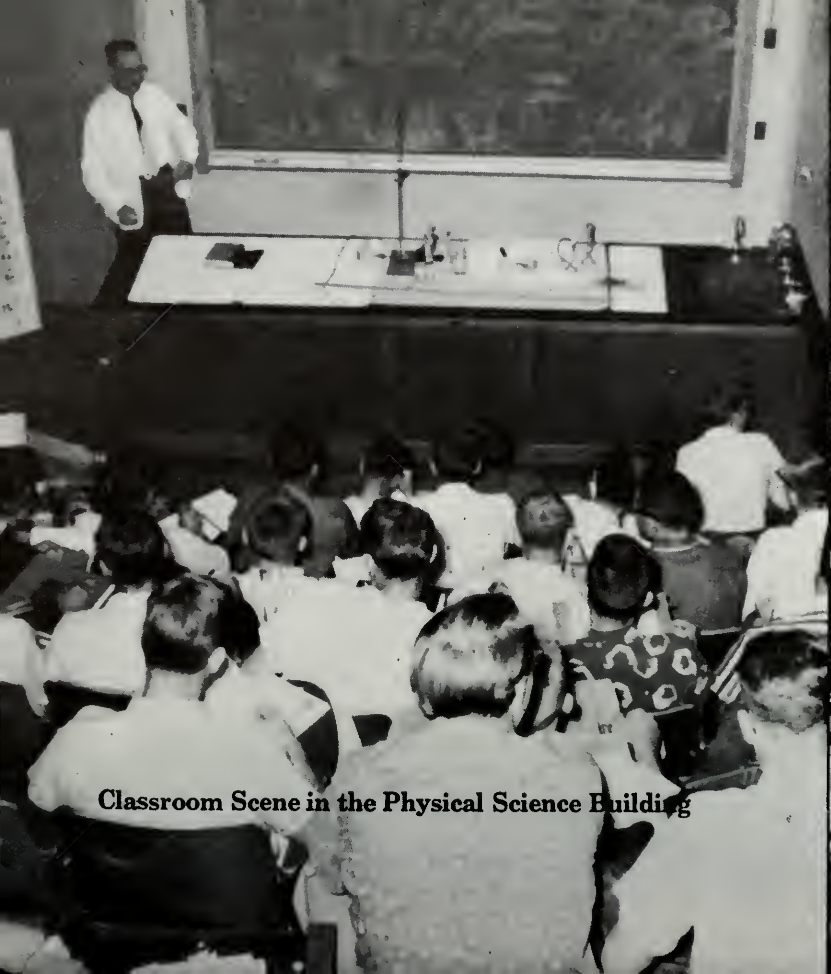
One of the Beautiful New Heritage Halls for Women

President David O. McKay After a Devotional Assembly

KAY BUILDING

David O. McKay Building

Carl F. Eyring Physical Science Center

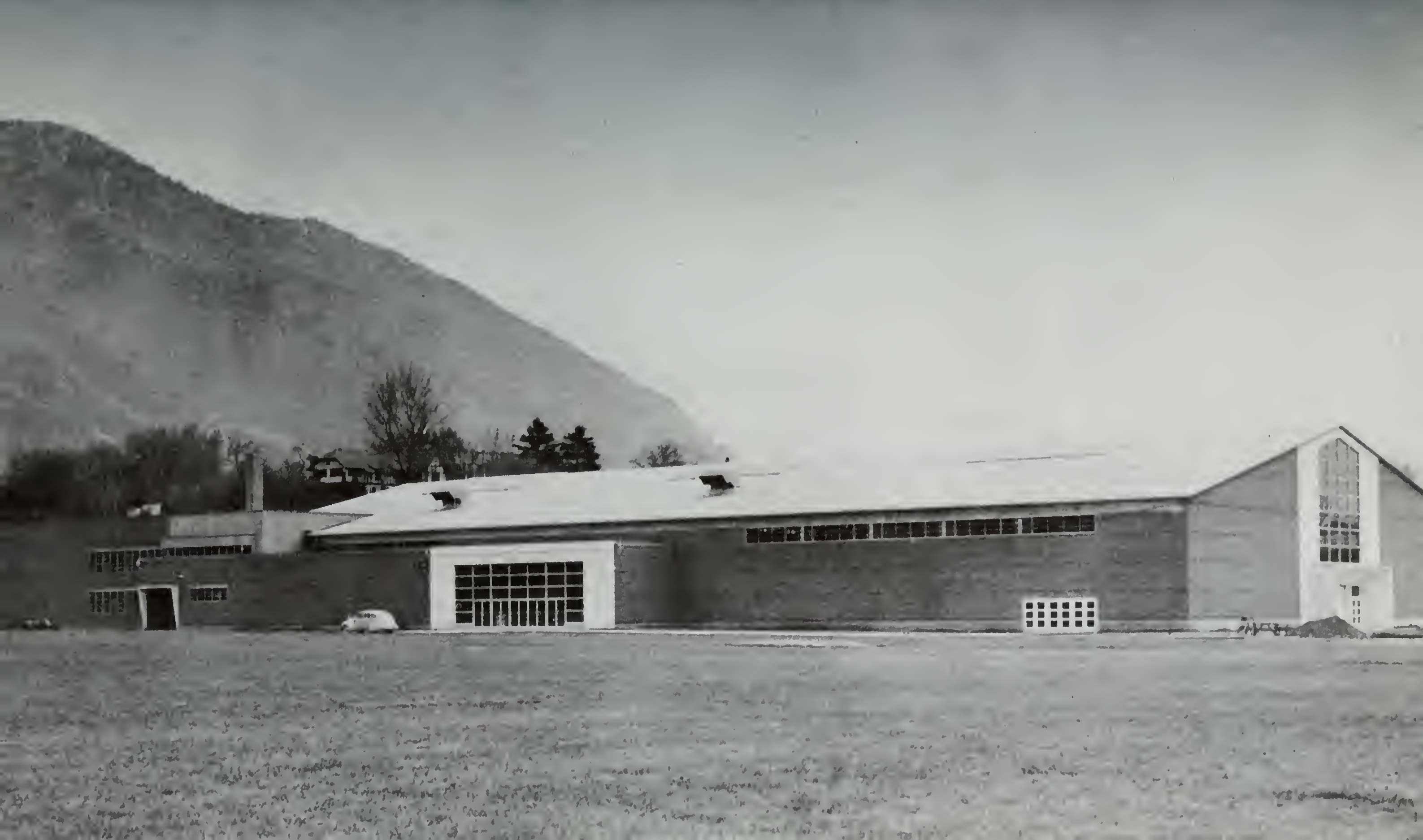


Classroom Scene in the Physical Science Building

Heber J. Grant Library Building

Winter Snow Blankets the Campus

George Albert Smith Fieldhouse



Football Action

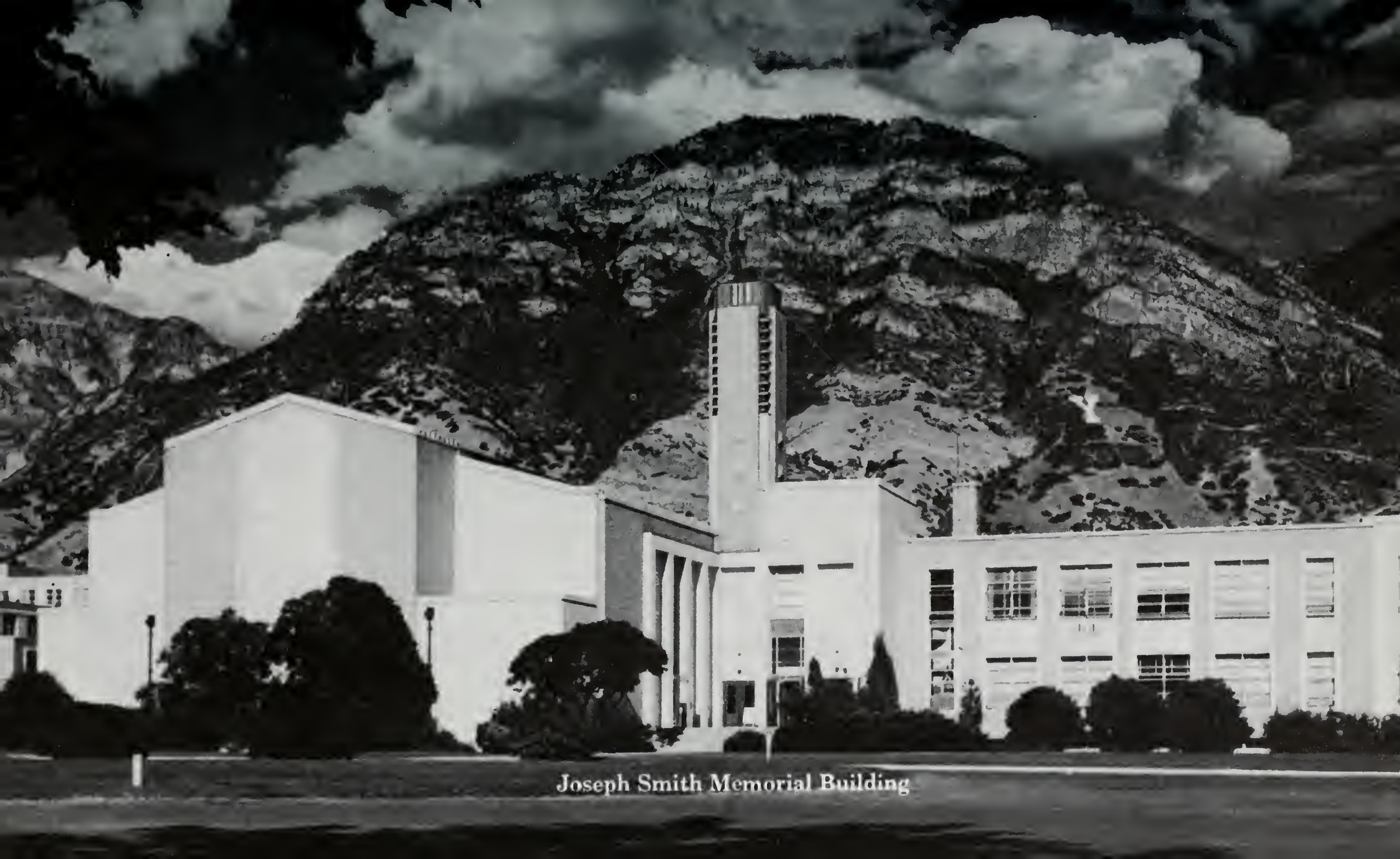
A Tense Moment in the
Traditional B.Y.U.-Utah
Basketball Game

Herald R. Clark Student Service Center

Amanda Knight Hall, Dormitory for Women

Karl G. Maeser Memorial Building

George H. Brimhall Building



Joseph Smith Memorial Building

B.Y.U.'s Symphony Orchestra

Scene From a Play

The University Today

Unification Plan. In every era of the Church its leadership has been sensitive to the need of continued intellectual and spiritual growth for its members. To meet this need, Church educational policies have constantly been adapted or modified to serve more fully the youth of the Church.

It was in such a spirit that all Church educational institutions were combined in July 1953 under one Administrator, Ernest L. Wilkinson, who in turn is subject to a Board of Trustees for Brigham Young University and a Board of Education for the rest of the Church School System. Both Boards, however, consist of the First Presidency and the Council of the Twelve. In announcing this unified plan the First Presidency said: "This great system of schools, institutes, and seminaries can become an ever more effective instrumentality in equipping the youth of the Church with solid foundations to meet the challenge of modern living." It added that Dr. Wilkinson "has surrounded himself with strong men to do a big job," and that "he will have at his service the strength not only of these men, but of all the members of the Brigham Young University Faculty."

Since the approval of this plan during the summer of 1953 the administrative offices of Church education have been established at Brigham Young University. Thus Brigham Young University becomes the Mother Institution for Latter-day Saint education. From this campus a spirit of simplifying efficiency, economy, uniformity of standards and procedures, and even wider cooperation and harmony can now weld all phases of Church educational work into a stronger unit than ever before.

Ernest L. Wilkinson, Administrator of the Unification Plan, continues as President of Brigham Young University. Assisting him are three Vice Presidents: Harvey L. Taylor, executive assistant; William E. Berrett, in charge of religious education; and William F. Edwards, in charge of finance and business administration.

Under this new plan, established schools, seminaries, institutes, and colleges continue their functions. Changes will be brought about as need and the growth of the Church dictate. In addition, each institution shares its particular problems and philosophies with its sister institutions, as coordinated and and interpreted by the Administrator and his assistants.

Academic Growth and Recognition. The Brigham Young Academy as originally organized by Karl G. Maeser had three departments: the Academic, the Intermediate, and the Primary. Instruction was given mostly in the work of the lower grades, although a normal class was included in the Academic Department. Today the University offers a full university curriculum, and its credits are recognized and accepted to the same extent as those of other leading American colleges.

The Brigham Young University is affiliated with the following educational associations:

American Council on Education
Association of American Colleges
American Association of University Women
National University Extension Association
American Association for Adult Education
National Commission on Accrediting
The American School of Oriental Research
American Association of Colleges for Teacher Education

In addition, Brigham Young University is fully accredited by the following organizations:

Northwest Association of Secondary and Higher Schools
American Chemical Society
National Council for Accreditation of Teacher Education
Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers.

Growth of Student Body. When founded in 1875, Brigham Young Academy gave elementary and high school work only. Over the eighty years of its existence it has become in terms of full-time equivalent students the largest university in Utah. At the present time it is experiencing a rapid growth, which, if continued, will soon make it one of the large institutions of the West.

At the time of its organization in 1875, nearly all of the students came from Utah County and its environs. Its student enrollemnt began at 29. During the regular 1956-57 school year it had on the campus approximately 10,300 daytime resident students. These, together with students of the Summer School, Brigham Young High School and Training School, and Extension Services, bring the total of students served to more than 15,500 for the year.

The students registered during the last few years came from the forty-eight states of the Union, the District of Columbia, the territories of Hawaii and Alaska, and from 29 foreign countries. Approximately 56 per cent of the students are from outside the state of Utah, and this percentage is increasing each year.

On January 8, 1956, a stake of Zion was established on the Brigham Young Young University campus. The Stake now consists of seventeen wards. All single students living away from home establish their membership records in one of the wards of the Stake. Married students who attend the Universisty may elect to have their membership records in either a ward of the B.Y.U. Stake or in a nearby ward in which they reside. Membership records of students will remain in the B.Y.U. Stake until they terminate their schooling at the "Y."

The B.Y.U. Stake was organized to provide maximum opportunity for active participation in the program of the Church. Each student may thus remain active in church affairs while he pursues his academic training. A strong effort is made to integrate religious activity with social, cultural, and intellectual development.

As in the days of Dr. Maeser, industry and thrift are encouraged, and at the present time approximately 40 per cent of all students are employed, earning a part of their subsistence.

Membership in the Church of Jesus Christ of Latter-day Saints is not required for admission, although at the present time 97 per cent of the students are members of the Church. The other three per cent, as a condition of their continuance as members of the student body, are required to live the same standards as other students, which include graciousness in personal behavior, conformance to Christian ideals in everyday living, a high standard of morality, and abstinence from the use of alcohol and tobacco.

SCIENCE AND ART COLLECTIONS

The Archaeological Collection consists of materials for study and research in the early history of man. Original antiquities on display, illustrating the early history of man in the Old World, range from crude stone "hand axes" of the Old Stone Age to inscribed tablets and other advanced products of the ancient biblical civilizations of the Near East; those illustrating the early history of man in the New World include representative artifacts of the early Indian cultures of Utah and the Southwest and antiquities of the ancient pre-Columbian civilizations of Mexico, Central and South America. Supplementing this exhibit are replicas of such famous archaeological monuments as the Rosetta Stone, key to the deciphering of the Egyptian hieroglyphics, and the "Tablet of the Cross" from the ancient Maya city of Palenque in Central America.

Also in the archaeological museum is a research archive of several thousand photographs and field card records of antiquities excavated or examined by archaeological expeditions of the University and other institutions.

The Botanical Collection includes a herbarium of fungi, liverworts, mosses and vascular plants from many parts of the world. The mycological collection consists of over 600 specimens of fleshy and parasitic fungi, most of which have been collected in the Rocky Mountain area. This represents one of the best collections of the fleshy fungi of this region.

The vascular plant herbarium includes some 200 plant families, 1200 genera, and 4000 species. These are represented by over 25,000 herbarium sheets. The collection is made up principally of plants collected in the Western States, but many plants of the Eastern States, Europe and South America are included as well as a good representation of the Arctic regions of Siberia, Iceland and the Aleutians. The grasses are especially well represented. A separate collection of poisonous plants, range plants, woody plants and plant diseases is maintained.

The department maintains a Botany Garden or Arboretum where more than 300 trees of various regions of North America representing in excess of 100 species are grown in natural association. This garden is designed as an experimental project to enrich the tree flora available for planting as shade trees, as a public educational exhibit and as a study area for many classes.

The Fine Arts Collection of paintings, sculpture, drawings, etchings, engravings, monotypes, lithographs, and reproductions of works of art is as follows:

I. Memorial Collections.
  1. The Lee Greene Richards Collection of 36 paintings.
  2. The James T. Harwood Collection of 90 paintings. etchings, and drawings.
  3. The John Hafen Collection of 24 paintings.
  4. The Elbert H. Eastmond Collection of 64 paintings.
  5. The John Willard Clawson Collection of 85 paintings and sketches.
  6. The Maynard Dixon Collection of 85 paintings and sketches.
  7. The Edwin Evans Collection of 61 paintings.
  8. The Rose Hartwell Collection of 71 paintings.
  9. The Rose Hartwell Crafts Collection.
  10. The Joseph Imhof Collection of lithographs.

II. Other Utah artists represented: George M. Ottinger. Daniel Weggeland, Loris Pratt, John B, Fairbanks, Samuel Jepperson, Minerva Teichert, Alma Wright, Waldo Midgley, Calvin Fletcher, Cornelius Salisbury, Joseph Everett, Henri Moser, Torlief Knaphus, Avard Fairbanks, Henry Rasmussen, B. F. Larsen, Edgar M. Jenson, Glen H. Turner, and J. Roman Andrus.

III. Well-known national artists represented: Lee Randolph, George Elmer Browne, Fern Gary, Gordon Grant, Marie A. Hull, Haley Lever, Clarence Millet, Luis F. Mora, Chauncey F. Ryder, Matteo Sandona, W. Lester Stevens, Anthony Thieme, John Law Walker, J. Alden Weir, John Whorf, Eliot Daingerfield, George Pierce Ennis, John E. Costigan, George Henry Taggert, William Morris, Jon Corbino, J. Connaway, Robert Brackman, Peter Hurd, Marguerite Pearson, Henry W. Ranger, John Twachtman, John F. Carlson, Gene Kloss, Earle Loran, Emil Bistran, Uumberto Romano and Lez Haas.

IV. Original etchings, lithographs, prints, including the work of Ernest Fiene, Rockwell Kent, Joe Jones, Reginald Marsh, Waldo Pierce, Herbert Dunton, Boardman Robinson, Otis Dozier, Lawrence Barrett, John Taylor Arms, Kaethe Kollwitz, Gene Kloss, Conrad Buff, and Reynold W. Weidenaar; there are also 24 Rembrandt replicas.

V. Oriental art, including Japanese paintings, prints, and reproductions.

VI. Reproductions of famous works of art, including various types of modern art.

VII. Large collections of slides, including natural color slides and the George K. Lewis memorial collection of kodachrome slides.

The Lotta Van Buren Collection of music and ancient instruments contains some rare old instruments, modern reproductions of instruments, books on ancient instruments, and a library of old instrument scores. Ancient costumes and pictures are also included in this collection.

Some of the instruments date from the 15th Century. A viola da gamba, once owned by George Frederic Handel, five viols, a cittern, an Arabian lute, a two-manual harpsichord, a virginals, an octavina, two clavichords, a hurdy-gurdy, and other such instruments are found in the Van Buren Collection, one of the few collections in the United States in which all instruments are in playable condition. The instruments are used in concert every year.

This unusual collection, housed in a specially furnished room, may be inspected by the public.

The Geological Collections of the University consist of an unusually complete series of minerals and an interesting variety of fossils.

The minerals number many thousands and are representative of the great western mining districts together with hundreds of localities of note. Part of this collection once represented the nucleus of the famous Deseret Museum Collection of Salt Lake City.

The fossil series are representative of many states and typical world localities. Much of this material was also formerly a part of the Deseret Museum Collection.

The Zoological and Entomological Collections of the University consist of a large series of identified vertebrate and invertebrate species of Utah and contiguous states. A complete series of fish, amphibians, reptiles, birds ,and mammals of this region is to be found in the collection. The fish collection is especially rich in species and specimens from the intermountain region. The bird collection consists of about 4,500 skins, 1,000 of which were collected in the Magdalena River Valley of South America by Chester Van Buren in 1901-03.

The Entomological collections consist of 325,000 specimens. The Tom Spaulding Collection of Utah Lepidoptera, the Chester Van Buren Collection of South American Butterflies, the Charles W. Leng Weevil Collection, the Charles Schaeffer Weevil Collection, and many species of weevils from the Blatchley Collection form important portions of this collection.

The natural history collections consist of a complete collection of Utah fish, amphibians, reptiles, birds and mammals. This collection is also supplemented by the Chester Van Buren collection of birds of the Magdalena River of Columbia, the David Starr Jordan collection of fish from the Hawaiian Islands, and a collection of reptiles from Oceania and the Philippine Islands. The entomological collection contains authoritatively named specimens in all the orders of insects. The pinned insects are placed in 450 trays, 18x19 inches in size, 2 inches deep. The specimens are pinned in unit boxes. The Lepidoptera collection is fairly complete, containing specimens from Utah and the Great Basin region. It contains over 600 named species and 10,000 specimens. It is made up of the famous Tom Spaulding collection and the Chester Van Buren collections. The Coleoptera collection contains over 6,000 determined species and 50,000 specimens. It contains a fairly complete collection of weevils, the Charles W. Leng collection of 1676 species, 300 species from the Blatchley collection, and the Charles Schaeffer weevil collection consisting of 813 species. A large collection of insects was made by staff members and former students in the South Pacific Islands, 1942-45. Many types, cotypes, and paratypes of specimens are in the collections. All these collections are housed in the fireproof George H. Brimhall Building.

These collections are being added to annually by means of collection expeditions that are sent out to various parts of the western United States. During 1944-45, 1,000 specimens of reptiles and 25,000 specimens of insects were received from staff members and former students who were on duty in the South Pacific.

CAMPUS LIBRARIES

The Heber J. Grant Library Building contains the general library collection, which includes over 225,000 bound volumes, several thousand pamphlets, and an extensive collection of titles on microfilm and microcards. A good selection of profession journals and of other current periodicals, as well as local, regional, and national newspapers, is also available.

The Brigham Young University Library is a depository for United States government documents and receives regularly publications of state and local governments. The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their activity cards to borrow books. Others may obtain a permit from the Circulation Librarian. The library is open, during the college year, from 7:30 a.m. to 10:00 p.m., Monday through Friday and from 9:00 a.m. to 5:00 p.m. Saturdays. It is closed during assemblies each Tuesday and Thursday from 10:45 a.m. to 12 noon. Vacation hours, when school is not in session, are 9v00 a.m. to 5:00 p.m., Monday through Friday, closed Saturdays and holidays.

Reserve book service for the Grant Library is maintained in rooms 212 and 213 of the McKay Building. Other books are placed on reserve in the library that houses the main collection for that particular subject area.

The Science Library is on the main floor of the Carl F. Eyring Science Center. Books and periodicals in the following subject fields are found housed in this collection: physical science, radio, engineering, photography, and antiquities. The university map collection is located in the map room of the Science Library.

The library for Biological and Agricultural Sciences, Nursing, and Home Economics is in the west basement of the Family Living Center.

The Phonograph Record Library is in Room 3263 Family Living Center. All students and faculty are invited to use these facilities. Libraries are also maintained in connection with two laboratory schools on Lower Campus. These are available to students majoring in the College of Education as a part of their training program.

In Room 160 of the Student Service Center the Journalism Department maintains a reading room containing current copies of daily newspapers, news magazines of the United States, and daily and weekly newspapers of the Intermountain region. A collection of periodicals in agriculture is located in Room 160 of the Brimhall Building.

The Special Collections of the university library are located in the Heber J. Grant Library Building. The books and other material housed in this area are not available for general circulation. Such collections often come to the library from individuals whose interests lead them to devote many years to their acquisition. The material within each collection is usually confined to a specific subject area. The Brigham Young University collection of Mormon-Americana, the William Gates collection of Middle-American Linguistics, and the National Welsh Library of America are an indication of the variety of materials available in Special Collections

The facilities of other libraries operated by the L.D.S. Church are also available to students of the Brigham Young University. The L.D.S. Genealogical Society Library, located at 80 N. Main Street in Salt Lake City, is open every day except Sunday. This collection contains approximately 55,000 books and 125,000 rolls of microfilm. These include family histories, genealogy, biography and autobiography, military records, cemetery inscriptions, town, county and state histories of the United States and both local and national histories of other nations.

Facilities of the Library of the Church Historian's Office are available to advanced students for research, by arrangement. It is located in Room 103 of the L.D.S. Church Office Building, 47 E. South Temple, in Salt Lake City, and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Its collections contain publications of the Church, periodicals of the various auxiliary organizations, reports and histories of the various missions, general history of the Church, biographies of Church leaders, and other pertinent published and archival material.

MOTION PICTURE PRODUCTION

The Department of Motion Picture Production has been established to produce documentary, historical, and training films for use in the Church and in schools. A correlated program with drama, music, art, writing, and all creative departments on campus will be used to produce films for instruction, television, and public relations.

Requirements for Undergraduate Work

Admission

Admission to the University is granted on the basis of an official application. The necessary forms will be furnished by the Admissions Office upon request.

Applications should be submitted at least **thirty days** prior to the time of registration. Students who submit applications after this day may encounter delay and inconvenience in their admission and registration. Late registration resulting from late application subjects the applicant to the late registration fee.

Students who apply for admission and are accepted by Brigham Young University are required to maintain ideals and standards in harmony with those of the Church of Jesus Christ of Latter-day Saints. The maintenance of high standards of honor, integrity, and morality, graciousness in personal behavior, application of Christian ideals in everyday living, and abstinence from alcohol and tobacco are required of every student.

Among the requirements for admission to the University as a regularly matriculated student, an applicant must be a graduate of an approved high school and must have selected nine academic units from among the areas of English, mathematics, science, social science, and foreign languages. A student who has not graduated from high school, but has sixteen units (Carnegie units) of high-school credit, may be admitted if his course of study and grades are approved by the Admissions Committee. Students of low scholarship may be denied admission.

Some departments and colleges have additional requirements for admission. Students should consult other sections of the catalog to learn about these requirements.

Students nineteen years of age or over who have not met the academic requirements specified for regular admission may, after clearance by the committee on admissions, be admitted to the University as unmatriculated students. They may pursue any course for which they have sufficient educational background but may not graduate without becoming regularly matriculated. Students nineteen years of age or over and all veterans are permitted to register as regular matriculated students after the successful completion of the General Education Development Test, taken during first year of attendance.

All new freshmen and sophomores are required to take the University Entrance Test at orientation time or as scheduled by the University.

Students who are planning to enter the Graduate School should consult the Graduate School section of the catalog for information and admission.

Course Divisions

Courses of study are given numbers as follows:

Preparatory and remedial courses	1-99
Lower division courses	100-299
Upper division courses	300-499
Courses for graduates or advanced undergraduates	500-599
Graduate courses	600 and above

Election of Studies

With the advice and approval of the dean of the college in which he registers, the student should elect such studies as are desirable. The major and minor, as well as the general requirements for graduation, should be kept in mind in electing studies. Each student is required to take Health 130 sometime during his freshman year and one lower division physical education course during each quarter of his freshman year. However, air science students need take physical education only two quarters, as two years of air science reduce the graduation requirement in physical education to two hours.

Should a resident student desire to take courses by correspondence or in extension classes, the approval of the student's dean must be secured and the correspondence or extension work entered upon the regular registration card. Students will be held responsible for any unauthorized overload for which they register, and such credit will not be allowed. Resident students of other institutions who apply for correspondence or extension class work at this University must have their proposed registration approved by the dean of their college in the institution in which they are registered. Students wishing to transfer correspondence credits from other institutions are subject to examination by the university department concerned.

At least five quarters of lower division work should be completed before the student registers for upper division work, unless in certain sequences the dean, with the consent of the instructor, advises otherwise. Included in the lower division work must be English 110 or 111; 112 or 115; and 113 or 116; and, for the A.B. degree, twelve hours in foreign language work. In order to qualify for the Bachelor of Arts degree, a candidate must furnish a training equivalent to 24 hours of college credit in a foreign language.

Classification of Students

At the beginning of each quarter regular students will be classified for that quarter as follows:

Credit hours earned	Classification
0 to 46	freshman
47 to 92	sophomore
93 to 139	junior
140 and over	senior

Completion of the required courses in freshman composition is prerequisite to classification as a junior.

A student who has met the entrance requirements but who registers for nine hours of work or less will be classed as a special student.

A regular student who has completed all requirements for the bachelor's degree is classed as a graduate student from that time on and must register in the Graduate School regardless of whether he registers for graduate or undergaduate courses in residence or extension or for study not intended to be used for a higher degree. Admission procedures to the Graduate School are indicated in the Graduate Catalog and apply to those who have graduated from Brigham Young University as well as from other universities.

Credits

A student may have credit entered on the books of the University as follows: 1. For work done in the regular courses offered by the institution. 2. For work done in an accredited college when such credit is to be used for graduation from the University, the amount to be determined by the Committee on Admissions and Credits. 3. By passing a satisfactory examination in any course offered by the University under the supervision of the head of the department concerned. Credits from other schools should be filed with the registrar upon entrance.

Special examinations for credit will be given only with the consent of the head of the department concerned, the dean of the college in which the student is registered, and the committee on Admissions and Credits.

An incompleted course of study may be completed during the next regular quarter of the student's residence, provided that the next quarter of residence is within one year of the time of the failure to complete the course. If a student does not complete a course within the prescribed time, his grade for the course automatically becomes an "E."

By payment of an auditing fee, a student may obtain permission to audit courses of instruction. Under no circumstances can credit be obtained by means of special examinations for courses which have been audited.

A fee of $5.00 per credit hour is charged for special examinations, provided the total fee for any one subject does not exceed $40.00.

It is the policy of the University to send quarterly grade reports to the parents of unmarried freshmen students under twenty-one years of age and to parents of all unmarried students under 21 years of age who are on failure or probationary status.

Withdrawal from Classes

Students discontinuing registration at the University are required to clear their termination through the office of the dean of their college and then the dean of students.

Students withdrawing from individual classes shall clear with the dean of the college or the chairman of general registration if they are not in a college.

a. If a student officially withdraws from a class during the first three weeks of a quarter, the permanent record will show no registration for the class in question.

b. If a student officially withdraws from a class during the second three weeks of a quarter, the permanent record of the student will show the letter "W" for the class in question.

c. If a student officially withdraws after the first six weeks of each quarter, his permanent record will show "W" for classes in which the student is doing passing work at the time of withdrawal and "WE" for classes in which the student is doing failing work at the time of withdrawal. A "W" grade does not count for or against grade points in computing the grade point average. A "WE" grade counts the same as an "E" grade in negative points in computing the grade point average.

d. If a student drops a class any time during the quarter without officially withdrawing, he will receive a grade of "UW" (meaning unofficial withdrawal) in every course so dropped. This will indicate that the student has failed to clear officially with the University. This grade will count in grade points the same as a failure grade of "E."

Withdrawal from Evening School Classes. Any student who wants to withdraw from a class for which he registered in the Extension Services office must do so by notifying that office and completing the withdrawal forms. An evening school student who does not properly withdraw will receive a failing grade.

Limitation on Credit in One Quarter

Undergraduate students in good standing may register for as many as 17 hours of credit in any one quarter by following the regular registration procedures. In the case of a student who has academic ability of high quality, the dean of a college or the chairman of general registration may authorize the student to register for a maximum of 18 hours for the first quarter in residence and a maximum of 19 hours for any succeeding quarter. Any student who has been in residence for one quarter or more and who has a cumulative average of 3.5 (or a 3.5 average in the quarter previous to registration) may register, with the consent of his dean, for 21 hours. Any exceptions to the above rules shall be presented to the Deans' Council for consideration.

Standards in English

Throughout his college career, each student is expected to use the English language accurately and effectively. A booklet entitled "English Standards at Brigham Young University," on sale at the Student Supply, gives detailed information on what is expected of the student.

Each junior is expected to pass an essay examination as a demonstration of his ability to write effectively. Anyone failing that examination will take a non-credit remedial course to correct his deficiencies.

Requirements for Graduation

General

For a student to be admitted to candidacy for a diploma or a degree, his scholastic record must show that he has satisfied the entrance requirements and that he can fulfill all the requirements for graduation on completion of the courses for which he is registered. At the time of graduation each candidate must be properly registered in the University and must have completed at least forty-five hours of work in residence.

The following graduation requirements apply to all candidates for a bachelor's degree from any of the colleges of the University.

Total amount of credit	186 hours
Upper division work (minimum)	60 hours
Requirement for a major	30 or more hours
Requirement for a minor	20 hours

All candidates for a bachelor's degree to be awarded in 1959 or subsequent years must fill the group requirements listed below under the topic "General Education Program." Students graduating before 1959 may chose either to complete these requirements in full or to fill all group requirements as prescribed in the 1954-55 Catalog (hereafter referred to as the old program), which are listed below. For students choosing the old program, departmental courses shall apply to the groups within which they have been classified under that program. It is recommended, however, that students under the old program endeavor to complete their group requirements from courses approved for the new program. Following is a summary of the new and old programs.

	New Program	Old Program
Physical Science	9 hours	12 hours
Biological Science	8 hours	12 hours
Social Science	15 hours	12 hours
Freshman Composition 111, 112, 113	9 hours	....
or		
Freshman Composition 115, 116	6 hours	....
English and Foreign Languages	....	18 hours
Humanities and Aesthetics	15 hours	....

Religion. Two credit hours in religion are required of every student for each quarter in residence, including the Summer Quarter. To be eligible for graduation, special students enrolled at Brigham Young University shall be required to accumulate credit in religion at the ratio of one credit hour to eight credit hours in other subjects taken in residence.

History. Five credit hours in American history and government are required for graduation. (See Department of History.)

English. English 110, 112, 113; or 111, 112, 113; or 115, 116 or their equivalents are required of all students.

Students of the University are expected to maintain acceptable standards of usage in oral and written English in recitations, written assignments, examinations, and all other academic work. This requirement will be enforced by teachers in all subjects and by the action of a committee representing the entire university.

Health. Each student is required to complete successfully Health 130 some time during his freshman year. Transfer students must have the equivalent or take the course before graduation. **Exceptions:** (1) Students enrolled in the School of Nursing who complete Nursing 202 and 212 are not required to take Health 130. (2) Veterans are allowed credit for Health 130.

Physical Education. Each student is required to complete successfully one lower division physical education service course during each quarter of his freshman year. Transfer students must have the equivalent or take the courses before graduation. **Exceptions:** (1) Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the above requirement. (2) Freshman air science students need take only two of the usual three required quarters of physical education. Withdrawal from the air science program before completion of six credit hours imposes the full physical education requirements.

Students desiring exemption from physical education for medical reasons must obtain an excuse from the University physician. Written statements from the local doctor must be approved by the University physician.

A candidate for a Bachelor of Arts degree is required to furnish training equivalent to twenty-four hours of college credit in one foreign language. A candidate for a Bachelor of Science degree is not required to submit credit in a foreign language.

Not more than thirty-five hours of the 186 hours required for a Bachelor's degree may be correspondence credit.

Not more than twenty-eight hours of "D" grade credit will be applied toward graduation.

Students who expect to be graduated at the end of the Spring Quarter should file application with their deans not later than the beginning of the Winter Quarter. All conditions must be removed not later than four weeks before graduation.

Students who fulfill all requirements for graduation at the close of the Summer Quarter and who have filed applications for graduation not later than March 15 will participate in the Summer School commencement exercises in August.

All graduating seniors must attend the graduation exercises unless they have been excused or have made satisfactory explanations of absence. Absence will be excused when based upon any of the following reasons:

1. Prior entrance into the armed services
2. Completion of work at the University prior to Spring Quarter and present employment which makes it impossible to attend commencement
3. Serious illness or death in the family or some other emergency
4. Enrollment in another school or university
5. Service in the mission field

Students not officially excused from commencement will not be graduated until they attend a later commencement in person.

The University reserves the right to change the requirements for graduation, and a candidate for graduation will be asked to comply with all changes which pertain to the uncompleted portion of his course.

General Education Program

(Required of all students graduating in 1959 and thereafter)

The object of the general education requirements of the university is to introduce the student as broadly and effectively as possible to fundamental fields of learning and assist him in coming to an understanding of some of the important influences that bear on human living. In order that these purposes may be achieved, the basic areas have been grouped, and specified courses within these areas have been approved from which students may select courses in fulfillment of general education requirements. The student is advised to fill these requirements by registering for courses in these groups at an approximate rate of four to five hours per quarter in addition to two hours in religion throughout his entire four years of study. Courses with prerequisites are preceded by a dagger (†).

1. Physical Science, 9 hours. (chemistry, geology, physics)

Option 1. At least one course must be selected from two of the following three departmental lists, so that a minimum of nine credit hours is accumulated:

Chemistry 100 (3) Introductory General Chemistry
Chemistry 101 (5) Introductory Inorganic Chemistry (for family living, nursing, and agriculture students)
†Chemistry 102 (4) Introductory Organic Chemistry (for family living, nursing, and agriculture students)
Chemistry 105, 106 (5-5) General Inorganic Chemistry
†Chemistry 111, 112 (5-5) Principles of Chemistry
Geology 101 (3) Introduction to Geology
Geology 102 (1) Introduction to Geology (may be taken only if accompanying Geology 101)
Geology 103 (3) Life of the Past
Geology 111 (5) Physical Geology
Physics 101 (3) Essentials of Physics
Physics 102, 103, 104 (3-3-3) Fundamentals of Physics
†Physics 111, 112 (5-5) General Physics (designed primarily for pre-medical and biological science majors)
Physics 127 (3) Descriptive Astronomy, "The Solar System"
Physics 128 (3) Descriptive Astronomy, "The Stellar System"
Physics 137 (4) Weather and Climate
Physics 177 (4) Physics of Light and Photography
†Physics 211, 212 (5-5) General Physics (designed primarily for physical science and engineering majors)

Option 2. The physical science requirement may be met by completing all nine hours in Physical Science 101, 102, 103 (3-3-3) with the understanding that no part credit in these courses may be used in fulfillment of Option 1.

Physical Science 101, 102, and 103 would be suitable for students having little background in science, as well as for those who intend to specialize in a scientific field.

For course description see **Physical Science** under general list of courses.

2. Biological Science, 8 hours. (bacteriology, botany, zoology and entomology) To satisfactory the general education requirement in biological sciences, the student must complete a minimum of 8 quarter hours of college credit. This shall include at least one of the following three courses: Bacteriology 121 (Bacteriology 301 for engineering students), Botany 101 or Zoology 105 (Zoology 109 for nursing and physical therapy students). The remaining requirements shall be satisfied by taking another of these three courses or any of the following courses approved for general education in the Departments of Bacteriology, Botany, and Zoology:

Bacteriology 121 (4) General Bacteriology
Bacteriology 301 (5) Microbiology
Bacteriology 311 (3) Sanitation and Public Health
†Bacteriology 381 (3) Water and Sewage Bacteriology (for engineering students only)
Botany 101 (5) General Botany
Botany 112 (4) The Plant Kingdom
Botany 123 (5) Plant Classification

Botany 145 (3) Principles of Genetics
Botany 230 (3) Trees and Shrubs
†Botany 435 (3) Plant Geography
Botany 451 (3) Conservation of Natural Resources
†Botany 560 (5) Plant Ecology
Entomology 230 (5) Introductory Entomology
Zoology 105 (5) General Zoology
Zoology 107 (5) Elementary Human Physiology (family living students only)
Zoology 109 (5) General Zoology for Nurses
†Zoology 164 (5) Vertebrate Anatomy and Physiology
†Zoology 176 (3) Survey Course in Heredity
Zoology 357 (3) Natural and Human Resources
†Zoology 550 (5) Principles of Ecology and Bio-geography

3. **Social Science, 15 hours.** (economics, human development and family relationships, geography, political science, psychology, sociology) Not more than five hours of the fifteen hours credit in social science are to be represented by History 170, 180, or their equivalent. At least two fields must be included in fulfillment of the remaining requirements of these groups. Only the following courses may apply toward fulfillment of this requirement:

Agricultural Economics 101 (5) Economics and Agriculture
Economics 101 (5) Economic Principles
Economics 274 (5) Economic and Financial History of the United States
Economics 461 (3) Labor Problems and Labor Relations
Economics 575 (5) Government Finance
Geography 105 (5) Introduction to Geography
Geography 110 (5) Geography in World Affairs
Geography 223 (3) Economic Geography
Geography 310 (5) Geography of North America
Geography 430 (5) Europe
History 170 or 180 (5) The American Heritage
†Human Development and Family Relationships 210 (3) Child Development I
Human Development and Family Relationships 360 (3) Achieving Success in Marriage
†Human Development and Family Relationships 361 (3) Family Relationships
†Human Development and Family Relationships 412 (3) Principles of Child Guidance
†Human Development and Family Relationships 440 (3) Development and Adjustments During the Middle and Later Years
Political Science 105 (2) Current Affairs
Political Science 110 (5) American Government
Political Science 111 (5) State and Local Governments
Political Science 112 (5) Foreign Governments
Political Science 115 (4) Introduction to International Relations
Psychology 111 (5) General Psychology
†Psychology 205 (3) Applied Psychology
†Psychology 320 (3) Psychology of Childhood
†Psychology 321 (3) Psychology of Adolescence (Either Psychology 320 or 321—not both—may apply.)
†Psychology 340 (3) Mental Hygiene
†Psychology 426 (3) Development and Adjustment During the Middle and Later Years
†Psychology 455 (5) Social Psychology
†Psychology 550 (4) Psychology of Personality
Sociology 111 (5) Introductory Sociology
Sociology 112 (5) Social Problems
Sociology 121 (3) Applied Sociology
Sociology 314 (5) Social Psychology
Sociology 392 (3) Race Relations
Sociology 400 (3) Achieving Success in Marriage
Sociology 443 (3) Sociology of Adjustment in Modern America

4. Humanities and Aesthetics, 15 hours. (archaeology, art, English, literature, history, journalism, languages, music, speech.) In a fifteen-hour total the student must take at least six hours of literature and some work in at least two other departments. A full year's beginning course of fifteen hours in a foreign language shall carry six hours ofc redit toward the satisfaction of this group requirement and may reduce the requirement in literature to three hours. Only the courses listed below will be counted toward the fulfillment of the requirements. The student may take any literature course for which he has adequate background. The English courses listed are especially recommended.

Archaeology 150	(4)	Introduction to Archaeology
Archaeology 221	(4)	Peoples and Culture
†Archaeology 310	(3)	General Near Eastern and Biblical Archaeology
†Archaeology 360	(3)	Ancient Civilizations of America
†Archaeology 518	(3)	General Classical Archaeology

Art 101	(2)	Introduction to Art
Art 110	(2)	Theory and Practice of Design
Art 121, 122	(4-4)	Elementary Drawing
Art 227	(2)	Oil Painting
Art 233	(2)	Watercolor Painting
Art 259	(2)	Ceramics
Art 263	(2)	Crafts
Art 303	(2)	Ancient and Primitive Art
Art 304	(2)	Medieval Art
Art 305	(2)	Renaissance Art
Art 406	(2)	Art History and Appreciation
Art 407	(3)	Contemporary Art
Art 408	(3)	American Art
Art 501	(3)	Aesthetics

English 250	(4)	Introduction to Literature
English 261, 262, 263	(2-2-2)	Masterpieces of American Literature
English 271, 272, 273	(2-2-2)	Masterpieces of English Literature
English 282, 382	(4-4)	Shakespeare
English 356, 357, 358	(3-3-3)	World Classics
English 583	(3)	Milton

History 110	(5)	World Civilization I
History 111	(5)	World Civilization II
History 120	(5)	The United States to 1865
History 121	(5)	The United States since 1865
History 150	(5)	Latin American Civilization
History 312	(3)	Renaissance and Reformation
History 360	(3)	History of the American Frontier
History 366	(3)	History of Utah
History 500	(3)	Early Oriental History
History 504	(5)	History of Greece
History 508	(3)	History of the Roman Empire, 31 B.C. to 439 A.D.
History 523	(3)	History of Europe, 1914 to Present
History 531	(3)	History of Russia Since 1900
History 540	(3)	History of England to 1714
History 541	(3)	History of England Since 1714
History 555	(3)	History of the Far East
History 572	(3)	The American Revolution and the Confederation
History 573	(3)	Intellectual and Cultural History of the United States

Journalism 101	(3)	Introduction to Mass Communications
Journalism 305	(3)	History of Mass Communications

The first year course in any foreign language fulfills six hours of the group requirement, provided that the student completes the entire course (15 hours). No credit on the group requirement will be given for part (5 to 10 hours) of the first year language course.

Prerequisite to the literature courses in foreign languages are 30 hours of the language or the consent of the instructor. The following courses may be applied to satisfy the literature requirement in the humanities and aesthetics groups:

†French 431, 432, 433 (3-3-3) Masterpieces of French Literature
†French 441, 442, 443 (3-3-3) Survey of French Literature and Culture
†German 431, 432, 433 (3-3-3) Masterpieces of German Literature
†German 441, 442, 443 (3-3-3) Survey of German Literature and Culture
†Italian 431, 432, 433 (3-3-3) Masterpieces of Italian Literature
†Portuguese 431, 432, 433 (3-3-3) Masterpieces of Brazilian and Portuguese Literature
†Russian 431, 432, 433 (3-3-3) Masterpieces of Russian Literature
†Spanish 431, 432, 433 (3-3-3) Masterpieces of Spanish and Spanish-American Literature
†Spanish 441 442, 443 (3-3-3) Survey of Spanish Literature and Culture
Music 101 (3) Survey Course in Music
Music 301 (2) Hymnology and Elementary Baton Technique
Music 302 (2) Ward Choir Direction and Intermediate Baton Technique
Music 383 (2) History of Sacred Music
†Music 484, 485 (2-2) History of Secular Music
Participation in all choral and instrumental organizations (1 hour total)
Private instruction on any instrument or in voice (2 hours total)
†Speech 122 (3) Fundamentals of Interpretation
Speech 123 (5) Fundamentals of Acting
Speech 124 (3) Voice and Diction
Speech 316, 317, 318 (3-3-3) Theatre History
Speech 325 (3) Advanced Interpretation
Philosophy 308 (3) Survey of Philosophy
Philosophy 310 (3) Introduction to Logic
Philosophy 511 (3) Philosophy of Science
Philosophy 512 (3) Problems of Knowledge

5. **Religion.** In fulfilling the requirement that for each quarter of residence at B.Y.U. a student must complete two hours of credit in religion, freshmen and sophomores, with the exception of returned missionaries, should select their courses from the following areas:

Church Administration 141, 142, 143 (2-2-2) Missionary Approach to the Gospel.
Church History 131, 132, 133 (2-2-2) L.D.S. History and Doctrine
Scripture 111, 112, 113 (2-2-2) An Introduction to the Book of Mormon and Its Teachings
Scripture 123, 124, 125 (2-2-2) An Introduction to the New Testament and Its Teachings
Theology 101, 102, 103 (2-2-2) An Introduction to Mormonism
Theology 104, 105, 106 (2-2-2) The Principles and Doctrines of Mormonism

Juniors and seniors should obtain a minimum of six hours in one or more of the following areas. All returned missionaries and transfer students ranking as juniors are not only permitted but are expected to select upper division courses in religion.

Church Administration 301 (2) Priesthood and Church Government
Church Administration 311 (2) The Principles of Genealogy and Temple Work
Church Administration 317 (2) The Principles of Genealogy and Temple Work
Church Administration 318 (2) Methods of Genealogical Research
Church Administration 321, 322 (5-5) Latter-day Saint Doctrine
Church Administration 349 (2) Economics of the Gospel Plan
Church History 301, 302, 303 (2-2-2) History of the Church of Jesus Christ of Latter-day Saints
Church History 304, 305, 306 (2-2-2) History of the Church of Jesus Christ of Latter-day Saints
Church History 307 (2) Biography of L.D.S. Leaders
Church History 514 (2) The Primitive Church and the Apostasy
Church History 515 (2) The Rise of the Western Church
Church History 516 (2) The Medieval Church, 600-1500

Philosophy 308 (3) Survey of Philosophy
Philosophy 310 (3) Introduction to Logic
Philosophy 511 (3) Philosophy of Science
Philosophy 512 (3) Problems of Knowledge
Scripture 301, 302, 303 (2-2-2) The Old Testament
Scripture 313 (2) The Life of Christ
Scripture 314 (2) Paul, the Apostle and Missionary
Scripture 315 (2) An Historical Examination of the New Testament
Scripture 325 (2) The Doctrines of the Book of Mormon
Scripture 331, 332, 333 (2-2-2) The Doctrine and Covenants
Scripture 338 (2) The Pearl of Great Price
Scripture 339 (3) Doctrines of the Pearl of Great Price
Scripture 504 (2) The Spirit of the Old Testament
Scripture 511 (2) Israel's Prophets
Scripture 524 (2) Analysis of the Book of Mormon
Theology 301, 302, 303 (2-2-2) The Principles, Doctrines, and Philosophy of the Church of Jesus Christ of Latter-day Saints

The option which follows applies only to those students enrolled under the new general education requirements. Six hours of credit in the courses listed below may be applied toward a total of 24 hours of credit in religion as well as applying toward the other groups in which they are listed.

†Archaeology 310 (3) General Near Eastern and Biblical Archaeology
†Archaeology 360 (3) Ancient Civilizations of America
English 350 (3) The Bible as Literature
History 500 (3) Early Oriental History
History 312 (3) The Renaissance and Reformation
History 366 (3) History of Utah
†Human Development and Family Relationships 210 (3) Child Development I
†Human Development and Family Relationships 412 (3) Principles of Child Guidance
†Human Development and Family Relationships 440 (3) Development and Adjustments During the Middle and Later Years
†Human Development and Family Relationships 360 (3) Achieving Success in Marriage
†Human Development and Family Relationships 361 (3) Family Relationships
Music 301 (2) Hymnology and Elementary Baton Techniques
Music 302 (2) Ward Choir Direction and Intermediate Baton Technique
Music 383 (2) History of Sacred Music

Old General Education Program

The following group requirements were in full effect through the academic year of 1954-55. Any student graduating prior to 1959 may elect to fill his general education requirements according to the following groups which comprised the old program, rather than by following the new program outlined in the preceding section. These groups may be filled by students up until and including 1958.

1. **Mathematics and Physical Science, 12 hours.** (mathematics, chemistry, physics, geology, and geography) To satisfy the twelve-hour group requirement, the student is urged to take work in at least two departments. At least one of the courses taken must require no fewer than two hours of laboratory work each week.

2. **Biology and Psychology, 12 hours.** (bacteriology, botany, zoology and entomology, and psychology) To satisfy the twelve-hour group requirement, the student is urged to take work in at least two departments. At least one of the courses must require no fewer than two hours of laboratory work each week. Educational psychology, a professional course for prospective teachers, will not be accepted as fulfilling this group requirement.

3. **Social Science, 12 hours.** (archaeology, economics, history, political science, and sociology) To satisfy the 12-hour group requirement, the student is urged to take work in at least two departments. The required five credit hours in American history and institutions may be used toward satisfying this group requirement.

4. **English and Foreign Languages, 18 hours, at least 12 of which must be in English.** This group must include English 110 or 111, 112 or 115, 113 or 116. If a student has credit for at least two units of foreign language taken in high school, this group may be reduced to 14 hours.

Major and Minor Requirements

At the time of his graduation, the student must have completed at least thirty quarter hours in his major department and no fewer than twenty hours in collateral or minor subjects which meet the approval of the head of his major department.

When the prospective graduate's high school and college work shows marked evidences of deficiencies and grade of scholarship, in breadth of training or in preparation for a probable future activity, the head of the department, in consultation with the dean, may prescribe certain additional specified courses, according to the needs of the particular student.

Registration of Prospective Secondary Teachers

All certificates for teaching, counseling, supervising, administration, and library work in the public schools of Utah are granted by the State Department of Public Instruction.

When all requirements for state certification have been fulfilled, students of the University who are registered in any of its colleges or in the Graduate School will be recommended for certification by the dean of the College of Education. This recommendation will be given just as readily to prospective secondary teachers who have registered in other colleges as to those who have registered in the College of Education, the dean of the College of Education acting merely in an administrative capacity as the representative of the University. Students who wish to obtain a secondary teaching certificate may therefore register in either the College of Education or in the respective colleges in which their major subject matter fields are taught. Applicants for an elementary teacher's certificate are required to register in the College of Education, except those who already hold the bachelor's degree, who must register in the Graduate School.

Each student preparing to teach in the secondary schools should be encouraged to make his own decision in selecting the college in which he should register. If the student feels that he will be aided most by registering with, and seeking continuous counsel from, those concerned primarily with the subject matter that he will teach, he should be encouraged to register in the particular college in which he selects his academic major. If he feels that he will be aided most by registering with, and seeking continuous counsel from, those concerned primarily with teaching as a profession, he should be encouraged to register in the College of Education.

Students who desire state certificates should make application with the dean of the College of Education, who has the proper application forms in his office, and not with the State Department of Public Instruction. In this respect, as noted above, the dean of the College of Education is acting for the entire University.

Scholarship Honors

In recognition of especially meritorious work, scholarship honors are granted to certain members of classes graduating with the bachelor's degree. The announcement of honor awards is to be made at the annual commencement exercises.

There are two designations in recognition of high scholarship merit: Graduation with High Honors and Graduation with Honors. The award of Graduation with Honor is made on the basis of excellence shown in work up to, but not including, the Spring Quarter of the senior year.

A student receiving either type of scholarship honors must rank among the highest ten per cent in scholarship in the graduating class. Graduation with High Honors will be awarded to the highest three per cent, Graduation with Honors to the next seven per cent. This rating is determined by computing a grade-point average as follows: Each credit hour of "A" counts 4; each hour of "B" counts 3; each hour of "C" counts 2; each hour of "D" counts 1; "E" counts 0. The total number of points is computed and is divided by the number of credit hours carried.

It shall be the duty of the committee on graduation to make selection of candidates in accordance with these provisions.

The University will post and publish at the close of each quarter of the regular school year the names of the students who have carried a minimum of 15 credit hours and earned a grade point average in all classes carried of 3.5 or above. Those having grade point averages of 3.5 through 3.7 will be on the Roll of Honor and those with grade point averages of 3.8 and above will be designated on the Roll of High Honor.

University Fees

(All fees are payable in advance and are subject to change without notice.)

General Fees

REGULAR COLLEGE AND GRADUATE STUDENTS

	Autumn Quarter	Winter Quarter	Spring Quarter	Total
Tuition	$55.00	$55.00	$55.00	$165.00
Building, gymnasium, student activity, and health fees	25.00	25.00	25.00	75.00
Total	$80.00	$80.00	$80.00	$240.00

SPECIAL COLLEGE AND GRADUATE STUDENTS

	Tuition	General Service*	Total
Minimum fee	$ 8.00	$ 2.00	$10.00
Two credit hours	10.00	3.00	13.00
Three credit hours	15.00	4.00	19.00
Four credit hours	20.00	5.00	25.00
Five credit hours	25.00	6.00	31.00
Six credit hours	30.00	7.00	37.00
Seven credit hours	35.00	8.00	43.00
Eight credit hours	40.00	9.00	49.00
Nine credit hours	45.00	10.00	55.00

*The general service fee does not include health service or student activity privileges.

The charge for auditing courses is the same as for taking them for credit.

Private instruction for credit is $5.00 per credit hour in addition to the instructor's fee, but no late fee is charged if all of the registration is for private instruction only.

REFUNDS — COLLEGE STUDENTS

In the event of withdrawal by either a regular or a special student, a refund will be made on the basis of a charge of $10.00 for a regular student and $5.00 for a special student, plus a per day charge of two per cent of the total fees paid for the quarter. The days charged for will be the school days beginning with the first day of the quarter on which classes were held following date on which the student registered to the day on which the student reported his withdrawal to the Office of the Dean of Students, both days inclusive.

No refund will be granted to a student who is requested to withdraw for scholarship or other cause.

The activity or receipt card must be surrendered on receiving a refund.

MISCELLANEOUS GENERAL FEES AND FINES

Graduation fee, bachelor's degree	$10.00
Graduation fee, master's degree	20.00

(Includes printing of thesis abstract)
(Photo identification .35)

Late application for graduation fee	3.00
(Those who apply after January 15 for June Commencement and after March 15 for August Commencement)	
Registration for graduation fee (For those not previously registered in the year in which graduated)	2.50
Late orientation fee (charged all freshman and sophomore students registering at the University for the first time who do not report to the campus at indicated time on the officially scheduled day for placement tests and orientation work preliminary to registration day)	3.00
Identification Photo	.35
Late registration fee (charged all regular and part-time students who register after the days officially scheduled for registration. No exception is made, regardless of the reason for being late. Five dollars beginning the first day after specified registration days and one dollar for each additional day up to a maximum of ten dollars)	5.00 to 10.00
Change of registration fee, for each change slip presented after the first week of each quarter	1.00
Examination, special equivalency, per credit hour	5.00
(The maximum fee in any one subject shall not exceed $40.00.)	
Duplicate activity card	1.00
Automobile registration and parking fee:	
Beginning of school year	5.00
Beginning of Winter Quarter	4.00
Beginning of Spring Quarter	2.00
Traffic violation fines	1.00 to 5.00
(Traffic fines are used for scholarships.)	
Thesis binding (4 copies)	11.00 to 13.00

FEES FOR INSTRUCTION IN MUSIC

(10 Lessons per Quarter)

Group I Teachers	$25.00
Group II Teachers	30.00
Group III Teachers	35.00
Group IV Teachers	40.00
Group V Teachers	45.00
Group VI Teachers	50.00
Ballou, Richard	30.00
Bos, Jacob	30.00
Brownlee, Robert	30.00
Buggert, Gustav	25.00
Cannon, Clawson	35.00
Curtis, Brandt	30.00
de Jong, Gerrit, Jr.	45.00
Earl, Don	35.00
Edlefsen, Blaine	30.00
Fuerstner, Carl	50.00
Fitzroy, George W.	30.00
Gates, Crawford	40.00
Gulbransen, Norman	35.00
Halliday, John R.	45.00
Hanson, Wm. F.	25.00
Keeler, J. J.	30.00
Laycock, Harold	35.00
Laycock, Ralph	35.00
Madsen, Florence J.	35.00
Madsen, Franklin	30.00
McAllister, J. W.	30.00
Nelson, Elmer E.	30.00
Nordgren, Quentin	30.00
Sardoni, Lawrence	35.00
Wakefield, Homer	30.00
Weight, Newell	35.00
Weinzinger, Kurt	35.00
Woodward, Margaret	25.00
Woodward, Ralph	35.00

FEES FOR PRIVATE INSTRUCTION IN SPEECH

(10 Lessons per Quarter)

Group I	$25.00	Jex, Lorin	25.00
Group II	30.00	Mecham, Merlin J.	25.00
Bateman, LaVar	25.00	Morley, Alonzo J.	25.00
Clinger, Morris M.	25.00	Pardoe, Kathryn B. (12 lessons)	30.00
Gledhill, Preston	25.00	Rich, Owen S.	25.00
Hansen, Harold I. (12 lessons)	30.00	Woodbury, Lael J.	25.00

FEES FOR SPEECH CLINIC

An out-patient fee of $12.00 per quarter is charged for rehabilitation service in the speech clinic. Such service is offered regularly enrolled students without any charge.

FEES FOR DEPARTMENTAL FACILITIES AND SERVICES

English 10 (Preparatory English of sub-college level)	$10.00
English 15 (Remedial English for juniors)	15.00
Food and Nutrition 240, 340 (Menu Planning and Meal Service)	3.00
Geology 410, 517	10.00
Health Education 310 (Driver Education)	5.00
Horticulture 112 (Flower Arrangement)	5.00
Instruction (Elementary) 447, 448, 449	15.00
Instruction (Secondary) 377, 478, 479	15.00
Nursing 211, 212 (Fundamentals Laboratory)	1.50
Nursing 485 (Public Health Nursing Laboratory)	30.00
Physical Education 131, 132 (Golf)	5.00
Physical Education 135, 136 (Skiing)	10.00
Physical Education 137 (Outdoor Experience Through Organized Hiking)	5.00
Physical Education 160, 161 (Swimming)	10.00
Physical Education 164 (Life Saving)	10.00
Physical Education 165 (Water Safety Instruction)	10.00
Physical Education 166 (Canoeing)	7.50
Physical Education 222 (Men) (Skills and Techniques)	6.00
Recreation 121 (Bowling)	6.00
Recreation 123 (Skills and Techniques for Outdoor Recreation)	12.00
Recreation 137 (Outdoor Experience Through Organized Hiking)	5.00
Recreation 138 (Outing Activities)	5.00

RENTALS

Woodwind, brass, and string instrument rental per instrument per quarter	$ 8.00
Organ rental, one hour each day, per quarter	10.00
Piano rental, one hour each day, per quarter	5.00
Each additional hour per day, per quarter	4.00
Practice room without a piano, one hour each day, per quarter	3.00
Each additional hour per day per quarter	2.00
Locker rent (McKay Building and Eyring Science Center):	
1 quarter	1.00
3 quarters	2.50
4 quarters	3.00
Key deposit	1.00
Replacement of lost key	.50
Locker rent (for high school students, Education Bldg.) school year	1.50

Fifty cents is returnable on return of key. If students share a locker there is an additional 50c for each additional key issued. The 50c for each such key is refunded on return of key.

DEPOSITS

Gymnasium towel check and padlock deposit (Maximum refund is $2.50)	3.00
Botany 175 (Microtechniques)	2.00
Botany 550 (Plant Physiology)	2.00
Botany 706 (Experimental Ecology)	2.00
Botany 712 (Plant Nutrition)	2.00
Industrial arts and drawing	1.00
Chemistry (each laboratory class)	1.00
Civil Engineering 202, 203, 204	1.00
Air science (All AFROTC students)	14.00

(Fifty cents per quarter will be retained for flight insurance.)

Fees for Laboratory Schools

SECONDARY SCHOOLS

Senior high school—10th, 11th, and 12th grades:	
Registration fee for the year	$18.00
Activity fee	11.00
Gymnasium service fee	1.00
TOTAL FEE for the year	$30.00
Junior high school—7th, 8th, and 9th grades:	
Registration fee for the year	10.00
Activity fee	9.00
Gymnasium service fee	1.00
TOTAL FEE for the year	$20.00
Special students in Secondary Laboratory School, per unit	7.50

Secondary laboratory school students who register any time during the first semester shall pay the full year's fees. Those who register the second semester in the junior high school shall pay $11.00 and in the senior high school $17.00, which amounts include the late fees.

A high school student authorized to register for college courses shall pay in addition to the high school fees $4.00 per credit hour, but the maximum charge for the high school and college courses shall not exceed that charged a college student for the same period.

ELEMENTARY SCHOOL

Kindergarten to the sixth grade, for the full year	$15.00

Elementary laboratory school students who register any time during the first semester shall pay the full year's fee. Those who register during the second semester shall pay $8.50, which includes the late fee.

LATE FEE IN LABORATORY SCHOOLS

A late fee of $2.00 will be charged all junior and senior high school students who register after the first week.

A late fee of $1.00 will be charged all elementary training school students who register after the first week.

Refunds—Laboratory Schools

A refund of $25.00 will be made to any senior high school student who withdraws during the first or second week of the first semester. A refund of $15.00 will be made to any student who withdraws after the second week and on or before the end of the first semester, but no refund will be made thereafter.

A refund of $15.00 will be made to any junior high school student who withdraws during the first or second week of the first semester. A refund of $10.00 will be made to any student who withdraws after the second week and on or before the end of the first semester, but no refund thereafter.

A refund of $5.00 will be made to any elementary training school student who withdraws before the beginning of the Christmas holidays, but no refund thereafter.

No refund will be granted to a student who is requested to withdraw for scholarship or other cause.

The activity or receipt card must be surrendered when a refund is received.

COLLEGE OF FAMILY LIVING NURSERY SCHOOL

Fee per child, per quarter	$18.00

Estimated Cost of Attending B.Y.U.
For Three Quarters, 1957-58

The expense of a year's study at Brigham Young University is surprisingly reasonable. It will depend a great deal on how much a student can or wants to spend. Basic minimum costs for a three-quarter school year are:

Tuition	$165.00
Building, student activity, health and gymnasium fees — $25 per quarter	75.00
Books and Supplies	60.00
Board and Room	495.00
Personal Expenses	125.00
TOTAL	$920.00

A recent nationwide study of the costs per year for tuition, board and room, and fees at private colleges indicates average spendings of $1,485 per student. This amount, which does not include personal expenses, is nearly twice as large as comparable costs at B.Y.U.

The estimate of $920 does not provide for an automobile or clothing or transportation from distant points. The cost will obviously vary with a married or single student and with young men or young women. For those doing their own housekeeping, either on or off the campus, the cost of board and room can be materially reduced. Some students without automobiles have spent for an entire year as little as $750. Others with an automobile have spent as much as $1,500. Except for those who travel back and forth to their homes each day, an automobile is unnecessary and often a hindrance to proper study.

Student Personnel Services

The Division of Student Personnel Services is responsible for the welfare of students in the following areas of university life:

Academic Standards
Counseling Service
Foreign Students
Health Services
Information Center
Orientation
Scheduling
Scholarships, Fellowships, Assistantships, and Academic Grants
Student Employment and Placement
Student Housing
Student Organizations and Social Life
Student Publications
Traffic and Security
Veterans' Affairs
Women's Activities

Dean of Students

The dean of students is director of the Special Services of the University. As such, he is expected to coordinate the agencies at work on student problems. He initiates and recommends to the President and the University Council needed policies and procedures in student life. It is his responsibility to administer the program recommended or approved by the President in the various areas of Student Personnel Services.

Counseling Service

Administrative officers of Brigham Young University are well aware of the many problems that new students are faced with as they begin their college careers. The Counseling Service has been established to provide services to meet the needs of students in making and maintaining a satisfactory adjustment to college life.

Faculty counselors in these services are qualified to counsel students regarding educational and vocational plans, personal and social adjustment, study skills, and personality problems. As each student enters the university, he is assigned to one of these professional counselors. All entering students are expected to contact their counselor so that they may avail themselves of this technical assistance.

The Counseling Service provides the following services for the University: (1) counseling service—educational, vocational, and clinical, (2) testing service, (3) occupational information service and (4) help with study skills.

The Counseling Service offers assistance to each individual student in helping him to make wise decisions in connection with educational, vocational, and personal problems.

Personnel tests of achievement, ability, interest, and adjustment are given to all new lower division students. The data from these tests are used as a basis for counseling in educational, occupational, and personal problems. Although the basic tests are given to all new lower division students, upper division and graduate students may avail themselves of the tests. The testing service provides psychological test data for the use of counselors and registration advisers, placement tests for various academic groups at the University, and assistance in the preparation, administration, and scoring of subject-matter tests requested by various departments in the University.

A comprehensive current coverage of essential occupational information is maintained in the Counseling Service Library. Current catalogs of the major universities and technical schools are also on file at the same place.

A study skills laboratory is maintained for use of all students in the improvement of their study habits. Reading materials and equipment are also available to help the student increase his ability to read.

Counselor for Women

Of special assistance to women students is a counselor for women. She is a member of the Committee on Student Personnel Services and chairman of the Committee on Women's Affairs. The counselor for women is available throughout each day to assist women students in solving personal problems.

Foreign Students Adviser

Services of the foreign students adviser are available to all students from countries outside of the United States. All alien students are expected to clear with him. Foreign students coming to the University should report first to Room 2254, Joseph F. Smith Family Living Center, the office of the adviser to foreign students.

Veterans' Benefits

Veterans transferring their G. I. benefits from other schools to B.Y.U. must bring a certificate of eligibility restricted to B.Y.U. This must be obtained by application to the last school attended. New veterans must make an application for eligibility. War orphan veterans should apply at the Veterans' Administration Office in their home state. Veterans of the Korean War may make their first application upon their arrival at the university by presenting their discharge form, DD-214. Veterans of the Korean War must begin use of their G. I. benefits within three years of their date of discharge. After this date they cannot suspend training for a full calendar year at any one time without receiving special clearance. Inquiries should be directed to the veterans' coordinator, Brigham Young University, Provo, Utah.

Scholarships, Awards and Financial Aids

The University awards annually to undergraduate students scholarships covering from one to three quarters' tuition each, granted on the basis of outstanding academic ability or demonstrated academic ability and outstanding ability in the areas of speech, drama, music, art, athletics, and other subjects. Tournament and contest winners frequently receive these awards.

The University also awards grants-in-aid to deserving students of good academic ability who have economic need.

To be eligible for a grant-in-aid, an athlete must meet either of the following requirements:

1. If a freshman, he must have been rated academically as in the upper two-thirds of his school graduating class. For the first year such award shall be made for the entire school year.
2. If not a freshman the student must be in good academic standing and not on probation. Such award shall be made on a quarterly basis.

A considerable number of loans are made to worthy and needy students. These are available to all students on the basis of their qualifications and need for financial assistance.

Scholarships and grants-in-aid are applied toward the payment of tuition or fees.

Any scholarship or grant-in-aid may be withdrawn at any time for academic or other good and sufficient reasons if, in the judgment of the selecting committee, the recipient has clearly demonstrated his failure to comply with both the spirit and the letter of the original terms of the scholarship or grant in-aid.

Graduate students also are eligible for scholarships, fellowships, and grants. For further information see the Graduate Catalog.

All scholarships, fellowships, assistantships, and academic grants are under the jurisdiction of a central committee which alone has the authority to promise or grant an award. All applications for these recognitions should be made to the chairman of the Committee on Scholarships and Awards.

Discipline

The maintenance of standards of honor and integrity, of graciousness in personal behavior, of Christian ideals in everyday living, of a high standard of morality, and of abstinence from alcohol and tobocco is required of every student. A student's having improper associates or visiting places of questionable repute will not be tolerated.

Any pronouncement of disciplinary measures made by the President of the University becomes a part of these regulations. Violations of regulations may make the offender liable to suspension or expulsion from the University.

Academic Standards

Students at Brigham Young University are required to demonstrate scholastic proficiency. Those who fail to meet the following requirements shall be subject to suspension from the University for low scholarship:

1. The academic standing of a student attending B.Y.U. shall be based upon the cumulative grade-point average earned at the University. Grade point averages are computed on a basis of 0 for E's, 4, 3, 2, and 1 points for each credit hour of A, B, C, and D respectively.
2. First quarter freshman students who have accumulated 18 quarter hours or fewer are required to maintain a 1.5 grade-point average. All other freshmen and sophomores (19-93 hours) are required to maintain a 1.75 grade-point average. All juniors, seniors and graduate students (94 hours or more) are required to maintain a 2.0 grade-point average.
3. Class standing is based upon the number of credit hours a student has accumulated prior to the beginning of the current academic quarter.
4. A student failing to meet the minimum standards of his class shall be placed on academic warning.
5. Students who fail to achieve a 1.0 cumulative grade-point average shall be placed on academic probation.
6. Students on academic warning who fail to achieve a current quarter 1.00 grade-point average shall be suspended from the University for low scholarship.
7. Students who fail while in an academic warning status to achieve the minimum grade-point average for the current quarter as required for their particular class shall be placed on academic probation.
8. Students on academic warning may remain in this status as long as they maintain the minimum current-quarter average for their class. Students on academic probation must have their record cleared from probation at the conclusion of the academic quarter during which they were placed on probation, or they shall be suspended for low scholarship.
9. Students on academic probation who fail to meet the minimum grade-point average for their particular class shall be suspended from the University for low scholarship.

10. Students admitted to the University in an academic probationary status are required to meet the minimum academic grade-point average for their particular class. Failure to do so will result in their suspension from the University for low scholarship.
11. Students readmitted to the University who were on academic warning or probation when they left the University are required to meet the minimum academic standards for their class. Failure to meet this requirement will result in the student's suspension from the University.
12. Students on academic warning shall not be permitted to register for more than fifteen credit hours, and students on academic probation shall not be permitted to register for more than fourteen hours. Any exception to this rule must be authorized by the dean of the college in which the student is registered.

Placement Bureau

The Placement Bureau, located in the east end of the Herald R. Clark Student Service Center, exists on the campus for the purpose of assisting graduating students and alumni to find desirable positions in their fields in business, industry, government, and education. This office works in close cooperation with deans and department chairmen.

The placement service includes a placement library where interested students may find books, articles, magazines, and brochures that will acquaint them with companies in which they may be interested and also books and pamphlets which will give advice on such matters as how to conduct oneself in an interview, how to write effective letters of application, how to find employment, etc.

All students are urged to register with the Placement Bureau early in the school year in which they will graduate so that that office may prepare early to give the most effective possible assistance in finding employment for each graduate.

Student Employment

In the Placement Bureau assistance is given to students in finding part-time employment. This includes help not only in placing students in positions on the University campus but also in finding part-time employment off-campus and in finding work for board and room.

Students are encouraged not to attempt to earn their entire way through school. Such a program leaves little time for academic work (See scholarships). It is important to note that there is a maximum limit on the number of hours which a student may work on-campus.

Students are urged to register with the Placement Bureau as soon as possible after they arrive in Provo and are available for work. Factors which weigh most heavily in deciding who shall receive leads for jobs are need, hours available, and possession of skills required by employers. Inasmuch as the number of students seeking part-time work is very high, those whose need is great are requested to report regularly at the Placement Bureau after filing their initial applications.

Students from foreign countries are required to obtain a work permit before they may take employment. Such students may receive assistance in obtaining the necessary permit from the foreign students adviser. Students under eighteen who succeed in locating employment are required to obtain a work permit. Instructions concerning this are available in the Placement Bureau.

Student Health Service

The new Howard S. McDonald Student Health Center on University Hill accommodates the health services, comprised of a large out-patient clinic and a small in-patient unit for cases requiring bed care. The center functions 24 hours daily, 7 days a week during school terms and is available to any regularly enrolled full-time or part-time student whose fees include the services for the quarter in which he is registered. Summer students are included. Medical care to all eligible students is limited to the facilities and personnel in the health center.

The following services are provided without extra charge:

1. An initial complete physical examination, required of all entering students. to be performed at the health center and to include screening chest x-ray, audiometry and urinalysis. This examination is also mandatory for students reentering after a two-year absence.
2. Consultation with general physicians and specialists, by appointment, in the health center during regular clinic hours, 8 a.m. to 5 p.m. This includes a specialty clinic in orthopedics, general surgery, gynecology, eye, ear, nose and throat disease, and internal medicine.
3. First aid treatment any time during the twenty-four hours of each day.
4. Special immunizations as required for smallpox, diphtheria, or typhoid.
5. Physical therapy as recommended by a health center physician.
6. Routine laboratory tests.
7. Seven days of bed care in any one quarter in the health center, as recommended by a health center physician, after which a minimum charge of $2.50 per day will be made. This includes post-surgical convalescence, the private physician continuing in attendance.
8. Immediate notification of parents or guardian by the health center when a student is taken acutely ill.
9. Certain procedures of public health importance, such as tuberculin tests, follow-up studies in infectious diseases, etc.
10. Within the limits of its personnel and facilities, and at the discretion of the director, the treatment of chronic disease suffered by students.

Some services require an additional charge and are supplied to the student at cost. These are

1. Meals while a patient is in the center.
2. Drugs on prescription of a health center physician.
3. Special diagnostic laboratory tests.
4. Poliomyelitis vaccination upon authorization by parent or guardian.
5. X-rays other than "screening" films. The health center regularly employs the technical personnel to take and interpret the x-ray films. The student pays only the cost of materials.
5. After-hour calls by a physician either in the clinic or at home. The student pays $2.00, the health center $3.00 for each call.
6. Rental of crutches.

Services **not** available:

1. Major surgery or off-campus hospitalization, except in instances where an injury is sustained while the student is representing the University through official assignment.
2. Dental service.
3. Obstetric services.
4. Eye refractions, glasses, prostheses, hearing aids, etc.
5. Ambulance service.

Student Housing and Food Service

All resident students at the University are expected, as a requirement of enrollment, to live in University-approved housing, whether it be on or off campus. The Office of Student Housing, established to assist students with their housing needs and to administer the housing program, operates on a year-round basis. It is located in the Herald R. Clark Student Service Center. All inquiries or administrative problems relating to housing should be referred to this office.

CAMPUS HOUSING

FOR WOMEN

Housing for 1,539 women is provided in 24 **Heritage Halls.** These are apartment-type buildings, each apartment consisting of a combination kitchen-dining-study room arrangement, three bedrooms, and a bath. In addition, there are large living rooms, a recreation room, laundry and storage facilities in each building. Six girls occupy an apartment and live cooperatively, preparing their own meals. The apartments are completely furnished except for bedding, kitchen utensils, and dishes. The facilities are excellent and offer a high standard of living for college students. The approximate annual rate for these accommodations is $225.00.

Each hall is under the supervision of a head resident couple, generally responsible for the personal welfare and social life of students in the hall. Help in the homemaking experiences of budgeting, buying, meal planning, and the selection, care, and construction of clothing is available from specialists who are assigned to the Heritage Halls. In addition, a specialist is available to assist students in planning social activities, developing recreational skills and learning wise use of leisure time.

The University operates two residence halls for women where board and room are provided. These two halls, **Amanda Knight Hall** and **Knight-Mangum Hall,** house 418 students. The halls, completely furnished, provide every modern convenience, including well-planned food service. Students are under supervision of a trained head resident. The approximate annual rate for these accommodations is $495.00.

Each woman student who desires to live on campus should consider carefully the type of accommodations desired in view of her economic needs, time available for activities within her housing situation and type of experience desired. Agreements are made for the year, and moving from one type of accommodation to another during the year is not permitted.

FOR MEN

Board and room for 426 men are provided in **Allen Hall** and **Wymount Residence Halls.** Allen Hall, located one block from campus, is a residence hall for men, consisting of living quarters, dining hall, and social room. The Wymount Residence Halls consist of seven buildings acquired from the federal government following World War II and moved to the University location. Food service for students living in the Wymount Halls is provided in a central dining room located in a separate building nearby. Supervision of Allen Hall is provided by an adult head resident couple. Wymount Residence Halls are supervised by carefully selected senior resident students. The approximate annual rate for a double room is $495.00. The Wymount Residence Halls have some single rooms available at an approximate annual rate of $540.00.

DIRECTORS OF PROGRAM AND PERSONNEL FOR MEN AND WOMEN'S HOUSING

Directors of program and personnel are available for general counsel relating to personal problems in the living situation. Requests for specific room or roommate preferences should be directed through these offices.

FOR MARRIED COUPLES

Family accommodations for 200 married couples and their children are provided in a housing development known as **Wymount Village.** These buildings were acquired from the federal government and moved to their present site following the war. The University is working on a plan to make additional facilities available by the Autumn Quarter. The maximum monthly rental rate approximates $40.00.

APPLICATIONS

Students who expect to enroll at the University and who wish to live in University-owned housing should apply at the earliest date to the Office of Student Housing. A $10.00 application fee should be enclosed with the completed application form.

ACCEPTANCE

The validating of any campus housing reservations is contingent upon the students' official acceptance and admission to the University.

OFF-CAMPUS HOUSING

Off-campus housing consists of apartments, rooms with kitchen privileges, board and room, and sleeping rooms. These facilities are inspected by the University to see that they comply with established standards before they are approved for student occupancy. Through the cooperative efforts of both the householders of the community and the University, constructive action has been taken to raise the standards of student housing throughout the community. Before making any commitment for off-campus housing, students should make sure that the place they contemplate living in has been approved by the University.

RATES

Rates for off-campus housing accommodations vary with the type of service provided, and as a consequence only a general indication can be given here. Sleeping rooms rent from $13 to $20 a month. Apartment accommodations run from $14 to $25 per month per student. Board and room are available at from $50 to $65 a month. Apartments for married students can be obtained at a rate of approximately $45 to $70 per month.

HOUSING RENTAL AGREEMENTS

Students planning to live in either campus housing or off-campus housing may expect to sign a rental agreement for the accommodations they expect to occupy. Students should be prepared to live by the terms of these agreements once they have signed them. Many misunderstandings and losses can be avoided by students if they will read and familiarize themselves with the terms of the agreement before signing.

A word of caution: Housing is such an important part of the total experience of the student at the University that thoughtful consideration should be given in advance to the type of housing desired before entering into the rental agreement. Further, to avoid discomfiture and possible loss of money, students should be sure that the accommodations under consideration have been approved by the University.

FOOD SERVICE

Regular meal service is provided in the Allen and Wymount Residence Halls for men and in the Knight-Mangum and Amanda Knight Residence Halls for women. The University also operates a cafeteria and snack bar in the downstairs area of the Joseph Smith Memorial Building. The cafeteria serves three meals a day, and the snack bar is open throughout the day and on into the evening. Costs of meals are kept as low as possible, consistent with sound operating management.

Traffic and Security

The Security Office is a protective agency for students, faculty, and staff. It maintains liaison with the city police and investigates and prosecutes thefts and other violations of law which may occur on campus. Any information relating to criminal events should be reported promptly to this office.

The Security Office maintains a lost and found service. Any item of value found on the campus should be deposited at once with this office.

A major responsibility of the Security Office is the directing of campus traffic and parking. Students are required to register their motor vehicles with the Traffic Department immediately upon enrollment in school. They must re-register at the beginning of each school year and obtain a parking permit if they intend to park on campus. The parking permit fee is $2.00 per quarter or $5.00 per year. It is the students' responsibility to notify the Traffic Department of any change of vehicles or license numbers.

Student Organizations

Student activities are organized in such a way as to offer maximum opportunity for training in leadership and self-government and to provide a well-balanced program of individual and group development. Numerous student organizations have been set up to realize effectively such an objective. All student organizations on the campus conduct their affairs in accordance with a basic philosophy designed "to provide for a broad program of social, cultural, and recreational opportunities in which students are encouraged to participate." Membership is open to students who qualify and remain qualified according to the rules and regulations set up by each organization. All students are urged to become affiliated with some group and thereby derive the benefits that only group experiences can bring. In order to coordinate organizational activity, to eliminate duplication of effort, and to lend continuity from year to year, supervision of student organizations is provided by the dean of students through the office of the coordinator of student organizations.

Associated Students. This organization is composed of all students who attend Brigham Young University and is presided over by officers elected by them. It seeks to develop interest on the part of every student in those activities which contribute to a more democratic "Y" spirit and to provide opportunities for all students to participate in a well-rounded program of out-of-class activities. Through this organization, student traditions are kept alive and all interclass and intercollegiate activities are encouraged and unified. Social, forensic dramatic, and musical activities are fostered under its management, and through it the students publish periodicals, which include the **Daily Universe**, the **Wye Magazine**, the student directory, and the University yearbook, the **Banyan.** The organization also functions as an auxiliary of university discipline through the activities of the Honor Council and the Inter-Organizational Council court system.

Associated Men. All men students registered are members of the Associated Men. The organization is designed to promote specific interests of "Y" men and to foster a wholesome masculine atmosphere on the campus. The Executive Council, consisting of three student leaders and a faculty counselor, supplemented by the twelve members of the "Y" Men's Council, forms the governing group.

Associated Women. This is an organization comprising all women registered in the University. Its purpose is to aid and foster all women's activities.

The organization, advised by the counselor for women, is a member of the Western Division of the National Organization of Associated Women Students, which includes most of the universities and colleges in the United States.

Class Organizations. Members of the four classes and the Graduate School are organized for the purpose of developing common interests and class spirit as the class proceeds through the University and into the Alumni Association. Meetings of the classes are held periodically with a limited number of social functions planned by class officers.

Executive Council. This council consists of the president, first vice-president, second vice-president, secretary-historian, and business manager of the student body.

Student Senate. This is a legislative body consisting of representatives from the entire student body and representatives from the classes. The senate considers student body problems and initiates action for the welfare of the student body.

Inter-Organization Council. This is an organization composed of representatives from student organizations to help govern organization activities. It derives its authority from the Executive Council.

Honor Council. This is a group of sixteen students appointed by the student senate and functioning as a counseling body with sub-committees to promote the honor system, to which all students are expected to adhere.

Student Publications

Under the supervision of the Student Publications Committee, composed of both student and faculty representatives, four publications are sponsored in order to serve the University and its students and to give opportunity for student expression and development through publications activities.

Newspaper. The Brigham Young **Daily Universe** is published daily during Autumn, Winter and Spring Quarters and weekly during the Summer Quarter. Opportunity is given students for valuable experience in news writing, editing, photography, photo-engraving, and advertising.

Yearbook. Named for the oriental tree which symbolizes the widening friendships formed on the campus, the **Banyan** is the students' photographic and artistic record of each year's activities. Portraits of all students and faculty members are included without charge to the individuals.

Magazine. The **Wye**, published quarterly, contains student-written poetry, stories, and non-fiction. Several awards are given for the best art work, photography, and writing published.

Directory. An annual directory of Brigham Young University students and faculty is published in the Autumn Quarter. Compilation of the directory material and sale of copies are sponsored by White Key, women's honorary service organization.

Professional and Departmental Organizations

The University encourages organizations which have the specific purpose of bringing together persons of similar scholastic and professional interests and of rendering their work more pleasurable and profitable. Each group fosters the activities of the department to which it is allied. Eligibility requirements are those of departmental affiliation and general scholarship as determined by the individual organizations. Fees are reduced to a minimum. Each organization has a faculty sponsor.

Service Orgnizations

There are on campus several organizations, the primary function of which is to render service to the University. Some of these are for men and some for women. Eligibility requirements are established by each organization and each has a faculty sponsor.

Religious Organizations

In addition to the seventeen wards on campus, there are several organizations which are primarily religious in nature but which are also social and service groups. Membership in some of these organizations is limited to returned missionaries while others are open to any interested student.

Social Units

Within the program of student organization, provision is made for men's and women's social units. Activities in these organizations are provided in accordance with the basic philosophy of student organizations and are established on the basis of common social interests, friendship, congeniality, and cooperativeness. These organizations furnish numerous opportunities for student participation both individually and in groups. The competitive spirit is fostered in such activities as the Homecoming Parade, the Song Fest, and the Snow Carnival.

Geographical Organizations

Geographical clubs are organized to further social enjoyment and acquaintance among students from the same localities. They are particularly helpful to students during the early quarters of school, before these students have found their way into the other social activities of the campus. Such clubs are also helpful in maintaining a close bond of interest between the student and his home.

Non-Student Organizations

B.Y.U. Women. The purpose of this organization is to foster the ideals of the institution and to help furnish recreation and social amusement for the faculty. A woman is eligible for membership in this organization and becomes a member on payment of dues provided that at the time she seeks admission she is either (1) a present faculty member (A faculty member is one who holds at least the rank of instructor.); (2) a past faculty member; (3) a matron; (4) a board member; (5) the wife of a faculty member who has died in the service of the school; (6) the wife of a present faculty or board member.

The Society of the Sigma Xi. This is a national organization devoted to the encouragement of research in pure and applied science. The local unit is known as the Brigham Young University Chapter.

Members of the Society of the Sigma Xi on the staff at Brigham Young University organized a Sigma Xi club in 1935. Since that time it has remained continuously intact, encouraging research and other activities in the various branches of science. A petition for chapter standing was submitted by the local club in 1949. A chapter was granted by the National Society of the Sigma Xi. Formal installation took place October 17, 1950.

Specific local projects include the sponsoring of national Sigma Xi appointed lecturer, the promotion of several lectures by prominent scientists within the unit and from nearby institutions, an annual Sigma Xi lecture by a member of the chapter, the awarding of an annual medal to an outstanding student for the completion of a research project, and the direction of possible sources of research funds in the interest of pure and applied science.

Religious Opportunities

Brigham Young University students have excellent opportunities for participation in religious activities. Among the organizations which make this possible are the following:

Brigham Young University Stake. This stake of seventeen wards, organized specifically for students, provides maximum opportunity for active participation in the program of the Church. Spiritual growth and the development of a strong testimony are goals fostered by the stake organization, whose program is closely integrated at all levels with that of the University.

Sunday Evening Firesides. Each Sunday evening firesides are held, sponsored by M.I.A. and other organizations. These firesides are supervised by the B.Y.U. campus ward bishoprics.

Devotional and Student Assemblies

Devotional and Student Assemblies. Throughout the academic year two assemblies are held each week at 11:00 a.m. on Tuesday and Thursday as a part of the regular program of the University.

It is contemplated that during each year all members of the First Presidency and of the Quorum of the Twelve Apostles will address the student body in the Tuesday devotional assemblies. The Thursday hour, set aside for outstanding student entertainment, is an important part of student life and should likewise be a definite part of the student's schedule. Interspersed with the student productions and devotionals are forum assemblies and lyceums featuring noted people from all walks of life.

Lyceums

Almost since its founding, Brigham Young University has been bringing to its students distinguished men and women in arts and letters. During the 1956 Summer Quarter and the 1956-57 season, the following have appeared or are scheduled to appear:

Julius Baker (summer)	Flutist
Berlin Philharmonic Orchestra, Herbert von Karajan conducting	
Royden Dangerfield(summer)	Lecturer
Flo French (summer)	Actress-lecturer
Viktor Fuchs (summer)	Lecturer
Carl Fuerstner (summer)	Pianist
Gene Helland (summer)	Clinic band conductor
Jacob Lateiner	Pianist
Jose Limon and Dance Company	
Little Singers of Paris, Msgr. Fernand Maillet, conductor	Ensemble
William Mulder (summer)	Lecturer
Rosalind Nadell	Mezzo-soprano
Dallin Nielsen (summer)	Clinic band conductor
Julian Olevsky	Violinist
Paganini Quartet (summer)—ten concerts—Henri Temianka, Gustave Rosseels, Charles Foidart, Lucien Laporte	
Carl Palangi (summer)	Baritone
Philadelphia Orchestra, Eugene Ormandy, conductor	
Josette and Yvette Roman	Duo-pianists
Alexander Schreiner	Organist
Joseph Schuster	Cellist
Irmgard Seefried	Metropolitan and Vienna State Opera soprano
Singing Boys of Norway, Ragnvald Bjarne, conducting	Ensemble
Ruth Slenczynska	Pianist
Claramae Turner	Contralto

Utah Symphony, Maurice Abravanel, conducting	
Cesare Valletti	Metropolitan and La Scala lyric tenor

Alumni Association

The Brigham Young University Alumni Association was organized in 1893 to "promote the general welfare of Brigham Young University."

During the sixty-three years of its existence, it has assisted the University in many ways: the Maeser Memorial Building was built with funds from alumni; part of the property on which the upper campus now stands was obtained by the Alumni Association and turned over to the University, and eighty additional acres were purchased by the Church at the suggestion of alumni leaders; a permanent endowment fund was established in 1929 which now exceeds $31,000; the Student Union Building fund, started during World War II, now exceeds $90,000 and has grown primarily from contributions of Alumni; the fieldhouse fund drive was supported by the Alumni Association; funds in cash have been turned over to the University at various times for unrestricted use; and the alumni have played a vital part in stimulating interest in Brigham Young University through contacts with prospective students, etc.

The Alumni Association has cooperated in organizing The Brigham Young University Fund, a department of the University which has as its sole function the responsibility of a long-range fund-raising program for the institution. It is hoped that through this new fund the University will receive gifts and contributions which will enable it to improve and enlarge its educational offerings. During the initial year of the fund which ended August 31, 1956, a total of 2,642 alumni contributed $22,023.75 to the University.

Alumni of the University are located in all forty-eight states, five United States territories and possessions, and twenty-seven foreign countries. Stake and mission presidents of the Church appoint alumni in their respective stakes and missions to serve as B.Y.U. coordinators, and these coordinators organize and conduct alumni activities in their areas. These coordinators are also members of the Alumni Council, governing board of the Alumni Association. The Alumni Council meets twice each year, during the weeks of April and October L.D.S. general conferences. Routine matters of the association are handled by an eighteen-member executive committee, headed by a president, two vice-presidents, a treasurer, the president of the Emeritus Club (composed of alumni who were at the University fifty or more years ago), and a full-time executive secretary. Members of the Executive Committee are selected each year to serve terms of three years. Members of the Executive Committee are also members of the Alumni Council.

Anyone who has attended the University for one quarter or more is a member of the Alumni Association. There are no annual dues or membership drives, except that the Alumni Association solicits contributions for the Brigham Young University Fund. All contributions to this fund are tax-deductible and entitle the donor to receive publications of the University and the Alumni Association, including the **Alumnus Magazine**, which is issued bi-monthly except during the summer.

Homecoming, in the fall, and Alumni Day, during Commencement Week, are the two major events of the year on campus for alumni. Periodic reunions of all graduating classes are held on these two days. Meetings are also held throughout the country by alumni living in local areas.

The Alumni Association maintains permanent records of all former students of the University and a full-time office staff on the campus. If the current address or other information is needed about a former student, correspondence should be addressed to the Alumni Office. Alumni visiting the campus are invited to visit the Alumni Office and to make it their headquarters while in the area.

The Alumni Association is a member of the American Alumni Council, an organization composed of alumni associations of all the major universities and colleges in the United States, Canada, and Mexico.

Colleges, Schools, Divisions

Colleges

Biological and Agricultural Sciences
Commerce
Education
Family Living
Fine Arts
Humanities and Social Sciences
Physical and Engineering Sciences
Recreation, Physical and Health Education, and Athletics

Schools

Graduate
Nursing

Division

Religion

College of Biological and Agricultural Sciences

Raymond B. Farnsworth, Acting Dean (110 B)

The following departments are in the College of Biological and Agricultural Sciences:

Agricultural Economics
Agronomy
Animal Husbandry
Bacteriology
Botany
Horticulture and Horticultural Specialties
Industrial Arts and Drawing
Zoology and Entomology

Biological Division. Included in the biological division of this college are the Departments of Bacteriology, Botany, Zoology and Entomology.

The biological division of the college enables the student to study and to understand more fully the plant and animal world. Preparation for teaching and research is emphasized.

Students who are interested in medical technology, medicine, dentistry, and veterinary science can receive their pre-training in the biological division of this college. Students desiring to register in these fields should make use of the guides offered.

Agricultural Division. Included in the agricultural division of this college are the Departments of Agricultural Economics, Agronomy, Animal Husbandry, Horticulture and Horticultural Specialties, and Industrial Arts and Drawing.

The agricultural division provides instruction in the principles and technical operations pertaining to the farm, the shop, the trades, and industries. The students are prepared not only to satisfy the practical needs of the community, but they are also trained to become specialists in the fields of agricultural science, for laboratories and also for teaching on all educational levels. Capable leadership and efficient service in the phase of work they choose are emphasized.

MEDICAL TECHNOLOGY

(Clinical Laboratory; Radiology)

Adviser: David M. Donaldsen

Through a cooperative agreement with various hospitals, the Brigham Young University has made provision for training medical technologists. The curricula are designed to prepare students for careers in either the clinical laboratory or the radiological laboratory. The course indicated in the following outline consists of a three-year period of residence study at the Brigham Young University campus and one year of practical hospital internship.

During the fourth year (internship), the student will register and pay tuition. After satisfactory completion of the internship, the student is eligible to receive a Bachelor of Science Degree.

Recommended Curriculum for Majors in Medical Technology

Freshman Year	A	W	S
Chemistry 105, 106, 107	5	5	5
Mathematics 101, 111, 112	5	5	5
English 111, 112, 113	3	3	3
Physical education	1	1	1
Religion	2	2	2
Health 130			1
Total Hours	16	16	17

Sophomore Year	A	W	S
Bacteriology 301, 501, 502	5	5	5
Chemistry 284	5		

	A	W	S
Zoology 105, 164		5	5
Religion	2	2	2
History 170			5
Literature (electives)		4	
Social sciences (electives)	5		
Total Hours	17	16	17

Junior Year

	A	W	S
Bacteriology 511	5		
Chemistry 220			5
Zoology 371		2	
Zoology 417		4	
Religion (humanities)	3	3	3
Bacteriology 491	1	1	1
Literature (electives)			2
Social sciences (electives)			5
Electives	3	3	
Physics 111, 112	5	5	
Total Hours	17	18	16

Senior Year

	A	W	S
Hospital laboratory internship	15	15	15

PRE-DENTAL COURSE

Advisory Committee: A. Lester Allen (chairman), Albert D. Swenson, Max M. Nicholes.

A student is not permitted to major in pre-dentistry. It is strongly recommended that he select course work that will lead to the bachelor's degree in zoology, bacteriology, chemistry, sociology, or psychology. This will give him the broad background desired by the dental schools and will also prepare him to enter an alternative field in the event he is not admitted to dental school.

Ninety quarter hours of work, including the following courses, will satisfy the minimum requirements of most dental schools. The student is advised to consult dental school catalogs to make sure that specific requirements of the schools of his choice are met. Such requirements may be somewhat more or less than those suggested below.

English 111, 112, 113
Mathematics 101, 111, 112
Physics 111, 112, 113
Zoology 105, 212, 263
Chemistry 111, 112, 113, 221, 351, 352, 353

The remaining units should be completed in general education and course work leading to the bachelor's degree.

PRE-MEDICAL COURSE

Advisory Committee: A. Lester Allen (chairman), Albert D. Swensen.

A student is not permitted to major in pre-medicine. It is strongly recommended that he select course work that will lead to the bachelor's degree in zoology, bacteriology, chemistry, sociology, or psychology. This will give him the broad background desired by the medical schools and will also prepare him to enter an alternative field in the event he is not admitted to medical school.

Three years of work, including the following courses, will satisfy the minimum requirements of most medical schools, although preference is usually given to college graduates. The student is advised to consult medical school catalogs to make sure that specific requirements of the schools of his choice are met. Such requirements may be somewhat more or less than those suggested below.

English 111, 112, 113
French or German 101, 102, 103 (reading knowledge)
Mathematics 101, 111, 112
Zoology 105, 212, 263, 373
Chemistry 111, 112, 113, 221, 351, 352, 353
Physics 111, 112, 113

The remaining units should be completed in general education and course work leading to the bachelor's degree.

PRE-OPTOMETRY COURSE

Chairman: A. Lester Allen

The admission requirements to optometry school vary from two to four years of college work. Prospective students should consult with the chairman of the pre-optometry committee for specific details.

PRE-OSTEOPATHY COURSE

Chairman: A. Lester Allen

Students intending to apply for admission to osteopathic school should follow the outline given under pre-medicine.

PRE-PHARMACY COURSE

Chairman: A. Lester Allen

The first year of the curriculum of the pharmacy school may be completed at this campus. For specific details the student should consult the chairman of the pre-pharmacy committee.

PRE-VETERINARY COURSE

Advisory committee: A. Lester Allen (chairman), Albert D. Swensen

The following pre-veterinary course is based on a minimum of two years of college training. It will fill the entrance requirements of most of the veterinary schools in the United States. However, the student is strongly urged to take 3 or 4 years of pre-veterinarian training and to include some work in animal husbandry. Additional courses in mathematics and a course in bio-chemistry are also suggested. The student is advised, however, to consult the catalogs of schools of his choice for special requirements that may affect him.

Freshman Year

	A	W	S
English 111, 112, 113	3	3	3
Religion	2	2	2
Chemistry 111, 112, 113	5	5	5
Mathematics 101 or 111	5		
Botany 101		5	
Zoology 105			5
Phys. Ed. 101, 102, 103	1	1	1
Total Hours	16	16	16

Sophomore Year

	A	W	S
Religion	2	2	2
Zoology 263	5		
Chemistry 351, 352	4	4	
Physics 111, 112	5	5	
Elective in social science		5	10
Elective in English or fine arts			5
Total Hours	16	16	17

College of Commerce

Weldon J. Taylor. Dean (162 N)

The following departments are in the College of Commerce:

- Accounting
- Business Education and Office Management
- Economics
- Finance and Banking
- Industrial Management
- Marketing

The purpose of the College of Commerce is to provide training which will enable students to make an effective contribution to the stability and abundance of our economy and thereby to acquire economic self-reliance and personal satisfaction. Because of the constant and progressive changes that are taking place in our society and because of the dynamic characteristics of business organization and operation, success in business requires both technical competence and a high degree of adaptability. For this reason the training provided in all departments of the college gives emphasis to the social, human, and technical aspects of the business and economic environment. In order to provide an understanding of the functions of business, the institutional framework for their accomplishment, the language and technical skills utilized and above all the interrelatedness of the several activities of business endeavor, all departments require course work in the following subject areas: marketing, production, finance, accounting, statistics, law, and economic theory.

The program is directed toward the achievement of the following specific objectives:

(1) Developing an understanding and appreciation of the **human characteristics and social aspects** of business as they are related to the individual, the firm, and the community.

(2) Training in the use and understanding of the tools and information used in measuring, analyzing, and controlling business operations and economic change.

(3) Developing in the student a capacity to determine what information is relevant to the accurate solution of a business problem and to analyze, organize, and present the solution of the problem in an effective manner.

(4) Helping the student to acquire the capacity to communicate ideas orally and in writing.

In order that all students who plan to graduate with a major in any of the departments in the College of Commerce (except business education majors) may benefit from a common background of basic information and tools to facilitate their advanced work, they are required to take the core courses listed below. These courses form a basic training normally to be completed during the first two years of college work and before the student undertakes upper division work in his major department.

Accounting 101 and 102 or 201 and 203, and 230	15 hours
Economics 101 and 231	10 hours
Psychology 111 or substitute approved by counselor	5 hours

The courses in economics and psychology listed above apply toward the University general education requirement in social science.

The degrees of Bachelor of Arts and Bachelor of Science are given to graduates of this college.

PRE-GRADUATE BUSINESS PROGRAM

All students planning to secure a degree at a graduate school of business may register for a pre-graduate business program administered by the College of Commerce. Early contact (perferably in the freshman or sophomore year) should be made with the dean, who will advise students concerning their work.

College of Education

Asahel D. Woodruff, Dean (118 McKay)
Antone K. Romney, Assistant Dean (118 McKay)

The following departments are in the College of Education:

Educational Administration
Educational Research and Services
Educational Values and Programs
Instruction

The College of Education has as its principal function the educating of teachers, counselors, school librarians, principals, supervisors, superintendents, and other professional workers in education.

High School Teaching. A student who plans to prepare for a career in high school teaching and related activities may do so either by registering within the College of Education or by registering in one of the other colleges of the University. In the latter case, he must complete the required professional education courses and the necessary subject-matter and other courses for the teaching certificate under the joint direction of an adviser in the College of Education and an adviser in his major college.

Elementary School Teaching. A student who is interested in elementary school teaching and who desires to register for major study outside of the College of Education should inquire of the chief information and records clerk, College of Education, Room 112, McKay Building, concerning the possibilities.

Teaching as a Second Career. A student who is preparing for a career in a field other than teaching may provide himself with a second possibility for employment by meeting the requirements for certification as a teacher while he is completing the other preparation. By planning early in one's career, one may do this within the usual scope of the baccalaureate program and with little or no interference with the major program. It should be noted that at present this is particularly feasible for high school teaching, where depth of preparation in two or three subject-matter fields is desired, but also may be possible under special arrangements in the elementary school program.

Early Decisions Desirable. In either case, the student is urged to make the decision as early as possible in his college career to avoid conflicts in the scheduling of courses and to take fullest advantage of the maturing effect produced by spacing the study of teaching over a period of several quarters rather than concentrating it in two or three quarters.

How to Proceed. Those who decide to register in the College of Education should transfer to that College at once. All others will register in the colleges in which they are majoring. All those who wish to qualify for elementary teaching should obtain information from the chief information and records clerk, Room 112 McKay, as to the early planning of their programs. Those who wish to qualify for secondary teaching should register for the course "Development and Learning," E.R.S. 305. This may be done during the fifth, sixth, or seventh quarter of colloge work. In this course students will be given full information and guidance on the planning of the rest of their program.

Each student who undertakes preparation for teaching will be provided with a brochure which describes the requirements and procedures and in which he will be expected to keep a record of his program and his progress.

How to Become Certified. A student who completes the certification requirements set forth in the College of Education, regardless of the college in which he is majoring, is eligible for a certificate issued by the Utah State Board of Education. Certification is received from that board, after application for certification has been made through the dean of the College of Education, who in turn recommends the student to the state board. All students who have met the requirements of the state and the University are recommended. Applications will be furnished routinely to all who are successfully completing the requirements near the end of the program.

A student may prepare himself to be certified as any of the following:

Teacher in elementary schools
Teacher in kindergarten
Teacher in secondary schools
Teacher of special classes for handicapped children
Teacher of vocational homemaking in secondary schools
Teacher of industrial arts in secondary schools
Librarian in elementary schools
Librarian in secondary schools
Counselor
Administrator-Supervisor in elementary schools
Administrator-Supervisor in secondary schools
Superintendent
Teacher of unit shops in industrial arts
Teacher of trade and industrial education day trade courses
Supervisor of trade and industrial education
Local director of trade and industrial education
Teacher and teacher-coordinator of distributive education
Local supervisor of distributive education

Certification Requirements. Certification of teachers is a function of the Utah State Board of Education. The Board of Education publishes requirements for certification in booklet form and in supplements. The present policy of the board is one of stating minimum requirements in general terms. This is done for the purpose of encouraging the institutions that prepare teachers to engage in continuous study of the requirements, going beyond the minima in whatever ways seem desirable. While the board is always able to certify a candidate without recommendation from a university, it chooses to require the recommendation of the officer in charge of teacher preparation in each institution This requirement is of assistance not only to the state board, but also the institution because of the assurance that its efforts to improve the program of preparation will not be vitiated by the ready availability of ways of going around its minimum requirements.

Alterations in the requirements may be made from time to time. They will not be made retroactive in the case of any student, but may be made to apply to uncompleted portions of his program, where this can be done without difficulty.

Selection of Candidates. Candidates for certification as teachers should expect to be carefully selected, even though their interest in certification is secondary to another career at the time. Only those who are individuals of high capacity, who have acquired a substantial general education, whose mastery of their major and minor fields is unquestioned, and whose personal characteristics reflect the best ideals of our culture will finally be recommended for certification.

The selection of those who will finally be recommended for certification is a continuous process. It begins when the student first announces his intention of seeking certification. It continues through all stages of his preparation.

Special Education. Utah has recently adopted a certification program in special education, with specialization provided in the following areas: children with intellectual handicaps, children with motor handicaps, children with speech and hearing handicaps, and children with academic handicaps. To be certified in Utah the individual must have a valid teaching certificate, plus appropriate experience, and must complete specified graduate study in the chosen area. Students interested in speech and hearing correction should contact the Speech Department. All others should consult the Department of Educational Research and Services.

Personnel and Guidance. Certification as a school counselor in Utah requires approximately one year of graduate work in personnel and guidance plus two years of successful teaching experience. For course listings in this area, see the Department of Educational Research and Services.

SUBJECT MATTER PREPARATION OF SECONDARY SCHOOL TEACHERS

The University offers two approaches to certification: the traditional teaching major and teaching minor, and a composite teaching major.

Teaching Major and Teaching Minor. A teaching major consists of 36 or more hours of designated courses in a subject taught in Utah high schools and approved by the College of Education. A teaching minor consists of 24 or more hours of designated courses in a subject also taught in the secondary schools of Utah and approved by the College of Education. The 36-52 hour groups listed in the following material (both Section A and Section B) are approved for the teaching major; the 24-33 hour groups listed in the same sections are approved for the teaching minor.

Composite Teaching Major. A composite teaching major consists of work in three subjects in the same general field totaling at least 60 hours, with 24 or more hours of designated courses in each of two related subjects in the same general area. For guidance in selecting and completing a composite teaching major, students may consult with the chief information and records clerk, Room 112 McKay. Only those subjects listed in Section B may be selected for a composite teaching major.

Any deviation from the academic programs outlined in Sections A and B must be approved in writing by the chairman of the subject-matter department concerned and filed with the student's permanent records in the College of Education.

A. TEACHING MAJORS AND TEACHING MINORS. The following may **not** be used as composite teaching majors (see preceding explanation).

Art:

45-hour list: 12 hours from Art 111, 121, 122 (or equivalents); art history, 9 hours; crafts, 8 hours; advanced design, 2 hours; commercial art, 4 hours; graphics, 2 hours; interior design, 2 hours; painting, 4 hours; sculpture, 2 hours.

27-hour list: Drawing (lower division), 4 hours; design (lower division), 4 hours, art history, 3 hours; crafts, 4 hours; commercial art, 2 hours; painting, 4 hours; sculpture, 2 hours; interior design, 2 hours; graphics, 2 hours.

Botany

37-38 hour list: 101, 123, 145, 230, 351 or 355, 390 or 391, 445, 490 or 491, 531 or 535, 543, 550, 560. Recommended: Bacteriology 121, Botany 451.

24-hour list: 101, 112, 123; and 10 hours selected from 145, 230, 451, 550, 560.

Drawing:

24-hour list: 102, 109, 113, 201, 244, 245, 248, 341.

Industrial Arts:

50-hour list: Drawing* — 6 hours selected from Drawing 102, 109, 113.
Woodwork — Industrial Arts 101 or 303, 103; and 6 hours selected from 104, 105, 301, 302, 303.
Metalwork — 12 hours selected from 120, 125, 130, 140, 150.
Craftwork — 8 hours selected from 260, 263, 464, 466.
Electricity — 6 hours selected from 360, 365.

Electives* — 6 hours chosen in consultation with the chairman of the Industrial Arts Department.

(**Note:** In order to complete requirements for industrial arts certification, the student must complete the following professional education courses (39 hours total): E.R.S. 305, 550; Ind. Arts 370, 377, 478, 479; Inst. 550; Ed. V. and P. 415; Ed. Adm. 310; and Health 361.

*If drawing is selected as the teaching minor, the elective hours should be increased to 12 and drawing omitted from the major requirements.

25-hour list: 101, 103, 140, 260 (total 11 hours); 4 hours of electives in drawing; 4 hours of electives in electricity; and 5 additional hours of electives chosen in consultation with the chairman of the Industrial Arts Department.

Languages:

36-hour list: 321, 322, 323, 441, 442, 443; and 18 hours of electives, of which at least 12 hours must be selected from 201, 202, 203, 431, 432, 433 (or equivalent upper division courses).

24-hour list: 321, 322, 323; and 15 hours of electives, of which at least 11 hours must be in upper division courses.

Music:

Students wishing to make instrumental music the dominant emphasis must take all courses listed under the heading "Instrumental Music Emphasis Area." Students desiring to have a composite major in music with a dominant area in vocal music must take all courses listed under the heading, "Vocal Music Emphasis Area."

Instrumental Music Emphasis Area

46-52 hour list: 301, 302, 383, 484; two courses from 368, 370, 372 (omit instrumental specialty); 160p, 161p, 162p, 190, 191, 192, 369, 371, 373; 6 hours of instrumental ensembles.

29-33 hour list: 101 or 484, 190, 301, 302; 10 hours selected from 160p, 161p, 162p, 368, 369, 370, 371, 372, 373, 375, 376; 6 hours of instrumental ensembles.

Vocal Music Emphasis Area

46-52 hour list: 190, 191, 192, 301, 302, 366, 383, 463, 466, 484, 485; 10 hours from 160p, 161p, 162p, 360p, 361p, 362p; 6 hours of vocal ensembles.

29-33 hour list: 101 or 484, 190, 301, 302; 10 hours selected from 160p, 161p, 162p, 366, 374, 568; 4 hours of vocal ensembles.

Instrumental-Vocal Music

29-33 hour list: 101 or 484, 190, 301, 302; 365, 366, 368, 370, 5 hours of instrumental ensembles; 5 hours of vocal ensembles.

(**Note:** The above teaching majors and teaching minors are to be selected only when the accompanying teaching major or teaching minor is in an area other than music.)

Zoology and Entomology:

38-hour list: 105, 176, 212, 230, 263 or 164, 332, 343 or 345, 346 or 347, 385, 496, 497.
Recommended: Bacteriology 121.

24-hour list: 105, 164, 176, 230, 385, 496, 497; 2 hours of electives.

B. COMPOSITE TEACHING MAJORS. The following general fields may be used to complete composite teaching majors as well as teaching majors and teaching minors (see preceding explanation):

ACCOUNTING AND OFFICE MANAGEMENT

Accounting

38-hour list: 101, 102 or 201, 202; 285, 350, 351, 352; 8 hours chosen in consultation with the chairman of the Accounting Department from Accounting 106, 230, 316, Finance and Banking 348, 453, 342.

24-hour list: 101, 102 or 201, 202; 14 hours chosen in consultation with the chairman of the Accounting Department from 106, 230, 285, 316, 350, 351, 352.

18-hour list: 101, 102 or 201, 202; 8 hours chosen in consultation with the chairman of the Accounting Department from 106, 230, 285, 316, 350.

Economics:

36-hour list: 101, 274, 345, 461, 575, 586, 580 or Marketing 347; and 3 hours of electives.

24-hour list: 101, 274, 345, 461; and 6 hours of electives.

18-hour list: 101, 274, 461; and 5 hours of electives.

(Note: Economics 274 and Political Science 110 fill American history and government requirements.)

General Business:

24-hour list: Accounting 101, 102 or 201, 202; Economics 101; and 9 hours selected from Accounting 316, Economics 274, 311, 345, 461.

(Note: If a student selects this list as a teaching minor or as one of the related fields in a composite major, the above courses in accounting or economics may not be counted towards completion of his teaching major or the other related fields in his composite major.)

Office Management (with Shorthand):

36-51 hour list: Typewriting (2-8 hours)—O.M. 101,* 102,** 103 or equivalent; 104 required. Shorthand (8-20 hours—O.M. 111,* 112,** 113, 214 or equivalents; 311 required. Other Office Management Courses (13 hours)—O.M. 106, 220, 470, 475. Accounting (10 hours)—Accounting 101, 102 or 201, 202. Additional courses to complete minimum 36 hours must be selected in consultation with the chairman of the Office Management Department from O.M. 305, 320, 485, 486.

*Not allowed if student has earned one year of credit in this subject in high school.

**Not allowed if student has earned two years of credit in this subject in high school.

24 hour list: Other Office Management—O.M. 106, 220, 470. Typewriting—4 hours including O.M. 104. Shorthand—12 hours including O.M. 311.

Office Management (without Shorthand)

36-27 hour list: O.M. 103 and 104 or 480; 106, 220, 305, 320, 325, 470, 485, 486; Accounting 101, 102 or 201, 202; 316.

(Note: The 24-hour group listed above under "Office Management (without Shorthand)" cannot be used as a minor with this list.)

AGRICULTURE

Agronomy:

37-hour list: 141, 251, 260, 262, 305; and 18 hours chosen in consultation with the chairman of the Agronomy Department from 301, 302, 307, 314, 455, 459, 573.

24-hour list: 141, 241, 262; and 12 hours chosen in consultation with the chairman of the Agronomy Department from 260, 302, 305, 307, 314, 451, 455.

18-hour list: 141, 251; and 10 hours chosen in consultation with the chairman of the Agronomy Department from 260, 262, 302, 305, 451.

Animal Husbandry:

39-41 hour list:101, 207, 208, 215; and 20-22 hours selected from 161, 170, 311, 312, 335, 340, 345, 370, 477.

25-29 hour list: 101, 207, 208, 215; and two courses selected from 161, 170, 311, 312, 335, 340, 345, 370.

19-hour list: 101, 207, 208, 215.

Horticulture:

18-hour list: 101, 103, 107, 402, 459; and 3 hours elective.

HOMEMAKING EDUCATION

(**Note:** Homemaking education may be used only as a composite teaching major; no teaching major or teaching minor may be selected from this field.

65-hour list: Clothing and Textiles 110, 115, 225, 260 or 370, 335, 475.
Food and Nutrition 110, 255, 256, 264, 340.
Economics and Management of Home 225, 330, 470.
Housing and Design 360, 375.
Human Development and Family Relationships 210, 211.
Nursing 288, 322, 361.
At least 6 hours selected from Clothing and Textiles 345; Food and Nutrition 345, 530, 560; Housing and Design 120, 345; Human Development and Family Relationships 210, 211.
575.

LANGUAGE ARTS

English:

41-27 hour list: 221, 251, 561 or 563, 562, 382 or 282, 490; four courses from 571, 572, 573, 575, 575. Two of the following substitutions are allowed: 332 for 575, 542 for 573, 552 for 572, 553 for 573, 554 for 574, 581 for 571.

25-hour list: 221, 251, 282 and one elective (chosen in consultation with the chairman of the English Department) or 382; 562; (one course from 572, 573, 574 or 575 recommended.)

Journalism:

36-hour list: 211, 212, 305, 321, 322, 490; 14 hours from 101, 226, 312, 313, 315, 330, 331, 533, and Physics 177.

24-hour list: 211, 212, 321, 322, 490; 7 hours from 226, 311, 312, 313, 330, 533.

Speech:

44-hour list: 101, 111, 121, 122, 126, 241, 319-320-321 (6 hours); 391, 460, 471; and 8 hours chosen in consultation with the chairman of the Speech Department.

24-hour list: 24 hours selected in consultation with the chairman of the Speech Department from 101, 111, 121, 122, 123, 126, 241, 319, 320, 321, 391, 460, 471.

MATHEMATICS AND PHYSICAL SCIENCES

Chemistry:

43-50 hour list: 111, 112, 113, 214, 221, 351, 352, 353, 461 and 462 or 581 and 582 or 591, 592 and 593.

24-25 hour list: 111, 112, 113, 221, 351.

20-hour list: 111, 112, 113, 221.

(**Note:** In any of the foregoing chemistry lists Chemistry 105 and 106, with a grade of B or better, will be considered equivalent to Chemistry 111 and 112.)

Geology:

36-hour list: 111, 112, 113, 251, 252, 253, 311, 480, 503.
24-hour list: 111, 112, 113, 251, 252, 253, 503.
18-hour list: 111, 112, 113, 501.

Mathematics:

39-hour list: 111, 112,, 231, 232, 233, 234; and 9 hours selected in consultation with the chairman of the Mathemtatics Department.
25-hour list: 111, 112, 231, 232, 233.
20-hour list: 111, 112, 231, 232.

Physics

36-hour list: 211, 212, 213, 321, 322; and 13 elective hours from upper division courses.
27-hour list: 211, 212, 213, 321, 322, 323.
19-hour list: 211, 212, 213, 137 or 177.

MUSIC:

(**Note:** The two areas listed below may be used only as composite teaching majors; no teaching major or teaching minor may be selected from these lists but should be chosen from the music listing in Sec. A courses.

Instrumental Music Emphasis Area:

77-hour-list: 160p, 161p, 162p (major instrument; two courses (omit instrumental specialty) from 368, 370, 372; Music 190, 191, 192, 290, 291, 301, 302, 365, 366, 369, 371, 373, 383, 484, 485; 6 hours of instrumental ensembles; 3 hours of vocal ensembles.

Vocal Music Emphasis Area:

77-hour list: 160p, 161p, 162p (vocal); 190, 191, 192, 290, 291, 301, 302, 366, 368, 369, 370, 371, 372, 373, 383, 484, 485; 6 hours of vocal ensembles; 3 hours of instrumental ensembles.

HEALTH, PHYSICAL EDUCATION AND RECREATION

Health:

19-hour list: 121, 325, 452, 453; Food and Nutrition 115; Zoology 164.
24-hour list: 121, 325, 452, 453; Food and Nutrition 115; Zoology 164; Chemistry 101.
37-hour list: 121, 325, 451, 452, 453; Bacteriology 311; Food and Nutrition 115; Psychology 340; Chemistry 101; and Zoology 164, 365.

Up to 3 credit hours may be substituted with the approval of the chairman of the Health Education Department for any of the above courses.

Physical Education:

45-hour list for **Men:** 180, 181, 182, 221, 222, 223, 224, 225, 226, 330, 341, 344, 371, 372, 373, 374, 413, 446, 464; and 2 hours selected from 206, 207, 250, 314, 511, 542; Health 326.
45-hour list for **Women:** 160, 180, 181, 182, 183, 187, 188, 189, 221, 222, 223, 224, 225, 226, 330, 341, 344, 413, 446, 464; and 5 hours selected from 207, 250, 314, 542; Health 326.
24-hour list for **Men:** 180 or 181, 330, 341, 371, 372, 373 or 374, 413; and 8 hours from 221, 222, 223, 224, 225, 226.
24-hour list for **Women:** 180, 181, 182, 183, 187, 188, 189, 330, 341, 413; and 8 hours from 221, 222, 223, 224, 225, 226.

Recreation:

24-hour list: 201, 387, 505, 537; and 13 hours chosen in consultation with the chairman of the Department of Recreation.

18-hour list: 201, 387, 505; and 10 hours chosen in consultation with the chairman of the Department of Recreation.

SOCIAL SCIENCES

Economics:

36-37 hour list: 101, 231, 274, 345; Finance and Banking 453 or 461, 575, 586.

26-28 hour list: 101, 274, 345, 461, 575, plus one elective course.

18-hour list: 101, 274, 461, 575.

(**Note:** Economics 274 and Political Science 110 fill the American history and government requirement.)

Geography:

39-hour list: 100, 110, 223, 275, 310, 560; and 13 hours of upper division courses chosen in consultation with the chairman of the Geography Department.

24-hour list: 100, 110, 223, 310; and 6 hours of upper division courses chosen in consultation with the chairman of the Geography Department.

18-hour list: 100 or 110, 223, 316; and 5 hours of upper division courses chosen in consultation with the chairman of the Geography Department.

History:

45-hour list: 110, 111, 120, 121, 366; and 22 hours selected in consultation with the chairman of the History Department.

26-hour list: 110, 111, 120, 121, 366; and 3 hours selected in consultation with the chairman of the History Department.

20-hour list: 110, 111, 120, 121.

Political Science:

45-hour list: 110, 111, 112 or 115, 301; and 27 hours selected in consultation with the chairman of the Political Science Department, to include at least one course from each of the six upper division areas of political science.

24-hour list: 110, 111, 112 or 115; and 9 hours selected in consultation with the chairman of the Political Science Department.

18-hour list: 110, 111, 112 or 115; and 3 hours selected in consultation with the chairman of the Political Science Department.

Psychology

36-38 hour list: 111, 321, 360, 365, 370, 374, 378; and 8 hours selected from 320, 340, 440, 455, 540, 550.

24-hour list: 111, 311, 374; and 10 hours selected from 320, 321, 340, 378, 440, 455, 540, 550.

18-hour list: 111, 311, 321; and 5 hours selected from 320, 340, 374, 378, 440, 455, 540, 550.

Sociology:

44-hour list: 111, 112, 303, 320, 322, 325 or 528, 504; and 16 hours selected from 117, 310, 314, 380, 389, 392, 400, 402, 420, 423, 426, 440, 443, 449, 512.

26-hour list: 111, 112, 303 or 504, 320 or 322; and 8 hours from 117, 310, 314, 380, 389, 392, 400, 402, 420, 423, 426, 440, 443, 449, 512.

18-hour list: 111, 112; and 8 hours selected from 117, 310, 314, 380, 389, 392, 400, 402, 420, 423, 426, 440, 443, 449, 512.

TEACHER PLACEMENT

Placement of teachers is a function primarily of the University Placement Bureau, which works in close collaboration with the College of Education. All students are required to register in the Placement Bureau as a prerequisite to registration for student teaching, whether they have positions already assured or not. Registration before leaving the campus enables the office to be of service at later dates as new opportunities or new needs arise.

THE LABORATORY SCHOOLS

Director: ....

The laboratory schools (kindergarten to twelfth grade) are maintained by the College of Education to assist in the preparation of teachers and in the improvement of educational programs. Students may secure valuable experiences there as part of their preparation for teaching. The laboratory schools are also intended to furnish a setting for research in child development, in learning, in social processes, and in the planning and conducting of educational programs. Use of these facilities is under the supervision of the director of laboratory schools, who should be consulted by faculty members and students who are interested. Individuals are requested to avoid going into classes or other facilities of those schools without making adequate clearance with the director and the principals.

In keeping with the laboratory functions of the school, students will frequently be under observation and study, and the classes in the school are subject to various kinds of experimental treatment for the purpose of improving instruction. Regardless of these functions, however, the instruction will always be kept at a high level of quality, since one of the principal purposes of the school is to demonstrate superior educational practices for the benefit of teachers-in-training and teachers-in-service.

Moral and religious education is a constant part of the instruction of these schools. Students are admitted under the assumption that they will adhere to L.D.S. Church standards for personal conduct, dress, and morality. Observance of these standards is a requirement for continued enrollment in the laboratory schools. Students are also required to observe the Utah compulsory school attendance law.

Enrollment in each grade of the laboratory schools is limited to the number of pupils who can be adequately cared for. Students are enrolled on the basis of priority of application and in conformity with the need for maintaining certain balances among pupils which are important to the laboratory functions of the school. Applications for admission should be filed with the principal of the school to which admission is sought. Forms for this purpose are available in the office of each principal and also in the office of the director.

Pupils who have been admitted may continue their schooling to the point of graduation from one of the colleges of the University if they so desire, make normal progress, and observe the standards of conduct of the school. They have all the advantages of the University plant, such as use of libraries, gymnasiums, laboratories, shops, athletic fields, auditorium, etc. The educational welfare of the students is safeguarded by an enriched curriculum.

Elementary Laboratory School

The Elementary Laboratory School covers the range from the kindergarten through the first six grades.

A staff of well-qualified instructors, together with the facilities offered by the University and the assistance given by student assistants and special supervisors, provides a wide range of experiences for the children. Much attention is given to individual needs and interests and to the development of special abilities.

The school serves as a laboratory in modern school practice for the preparation of teachers in the field of elementary education and for the use and observation of current educational theory.

Secondary Laboratory School

JUNIOR HIGH SCHOOL

Pupils completing the first six grades are regularly transferred to the junior high school. Here departmentalization begins, permitting variation in courses and a wide range of contact with expert instructors. A maximum of four units plus one year of religion credit will be allowed for ninth year work to count toward filling group requirements and toward graduation from the senior high school for those pupils coming from schools which do not maintain a junior high school.

SENIOR HIGH SCHOOL

Students completing the three years of work prescribed for the junior high school are admitted to the senior high school.

Students graduating from the senior high school will be expected to complete 16 units in three years. Equal credit will be given in all subjects for equal amounts of time spent in the classroom. A course followed for thirty-six weeks with classes meeting five times a week will give one unit of credit. All the constants prescribed must be included in the program of each student.

AIMS AND REGULATIONS

It is the purpose of the high school to develop in its students habits of regularity, punctuality, and industry. Willing and serious application to the tasks at hand is considered of fundamental importance in meeting life situations. It is the aim of the school to have students work vigorously during the day in order to develop the above qualities and to minimize home preparation of lessons. To achieve these aims, the following regulations apply to those enrolled:

(1) Students will be held accountable to the school at all times from the beginning of the school day schedule until the end. A student is expected to register for regular class work each period of the day. Permission should be obtained from the teachers and the principal if students are required to leave the school at any time during the day. Special permission should be obtained prior to the departure.

(2) All students are required to register for religion. Students who fail to do satisfactory work in their courses in any department will not be permitted to remain at this school.

(3) Students are required to take the regulation courses in physical education during residence at this school. Students are released from this requirement only upon statement of physical disability signed by a physician. Satisfactory grades in physical education courses are required for graduation.

HIGH SCHOOL ACTIVITIES

Under the direction of the faculty and the student body organization, an adequate program of athletic and social activities is provided for junior and senior high school students.

All high school groups have regular social gatherings and recreational activities under faculty supervision and guidance. They have activities in athletics, debating, public speaking, and essay writing. Each year the school produces several dramatic and musical programs. The school is a member of the State High School Debating Association and the Utah High School Activities Association. In addition to these opportunities for extra-class activities, a regular high school student body organization is maintained with the various activities that naturally are sponsored by such organizations. The high school students have also the advantage of participation in the regular activities of the University student body.

CREDIT

Those classes which meet five days each week for a full fifty minutes and which continue for the full school year of thirty-six weeks of actual class work carry one unit of credit.

Students who register late or who discontinue before the end of the school year or miss a portion of their work during the school year can receive no higher grade than "Incomplete" until the required work of the course is completed. An incomplete grade carries no credit. Such a grade may be removed with the following six-week term and credit received.

ACCREDITATION

Brigham Young University High School meets all requirements of the Utah State Board of Education. It is accredited by the Northwest Association of Secondary and Higher Schools.

Secondary School Curricula

JUNIOR HIGH SCHOOL

Core Curricula

It is the philosophy of the junior high school that certain areas of work should be organized around student needs into a core program. By having students remain with one teacher for a two-hour period, it is believed that greater strides may be made in guiding the pupil in solving his personal problems, in integrating his school activities with those which he carries on in the community, in developing a wholesome personal outlook, and in developing basic skills and acquiring factual knowledge commensurate with his level; therefore core curricula have been set up in the seventh and eighth grades.

7th Grade Subjects:

Constants: Physical education, core curriculum (English, social studies, and religion), mathematics, music or band, art, speech, industrial arts, homemaking.

8th Grade Subjects:

Constants: Physical education, core curriculum (English, social studies, and religion), general science, history, mathematics, music or band, speech, art, industrial arts, homemaking.

9th Grade Subjects:

Constants: Art, physical education, English, social studies, religion, general science, mathematics, music or band, homemaking, industrial arts.

SENIOR HIGH SCHOOL

Students desiring to graduate from the B.Y.U. High School and to qualify for college entrance at the same time must complete the following requirements.

1. A total of sixteen units is required in grades 10, 11, and 12. A unit of credit is given for any subject that is taken five times a week for 36 weeks.
2. Two years of physical education must be taken while in the senior high school, one of which should be taken in the sophomore year. Students who have some physical disability may be excused from this requirement if they have a statement from their family doctor confirming the fact of their disability.
3. One unit of mathematics selected from algebra, geometry, or general mathematics.
4. Three units of language arts.
5. United States history and either problems of democracy or development of civilization.
6. One unit selected from chemistry, physics, physical science, or biology.

7. One semester each of two of the following courses: eugenics, physiology, senior problems.
8. While at Brigham Young High School, the prescribed courses in religious education must be followed satisfactorily by all students. One religion class each year is required.
9. The following courses are suggested and recommended but not presently required:

    Music or art - ½ unit
    Homemaking or industrial arts - ½ unit

Special courses may be planned for those high school students who do not intend to be officially graduated from high school or who do not intend to go to college.

If it is deemed advisable, outstanding senior students may secure permission from the principal to take a maximum of 6 quarter hours of college credit each quarter. **Under no circumstances may graduation requirements be completed with less than four classes in the senior year.**

SENIOR HIGH SCHOOL COURSES

Subject	Days		Year Taken	Credit
Art I and II	5	Elective	10-12	1 unit
Industrial Arts I and II	5	Elective	10-12	1 unit
Business				
Shorthand, Elem.	5	Elective	11-12	1 unit
Shorthand, Adv.	5	Elective	11-12	1 unit
Typing, Elem.	5	Elective	10-12	1 unit
Typing, Adv.	5	Elective	10-12	1 unit
Bookkeeping	5	Elective	10-12	1 unit
Language Arts				
Composition, Grammar, and American Literature	5	Constant	12	1 unit
Grammar and Literature	5	Constant	10	1 unit
English Literature	5	Constant	11	1 unit
Basic English	5	Constant	9	1 unit
Publications	5	Elective	10-12	1 unit
Journalism	5	Elective	10-12	1 unit
Homemaking				
Homemaking	5	Elective	10-12	1 unit
Home Living	5	Elective	10-12	1 unit
Home Management	5	Elective	12	1 unit
Adv. Foods and Clothing	5	Elective	11-12	1 unit
Language				
French 1	5	Elective	10-12	1 unit
Spanish 1	5	Elective	10-12	1 unit
Mathematics				
Algebra I	5	Elective	10-12	1 unit
Geometry*	5	Elective	10-12	1 unit
Arithmetic (Bus.)	5	Elective	10-12	1 unit
Basic Skills	5	Elective	10-12	1 unit
Algebra II	5	Elective	10-12	.5 unit
Music				
Chorus	5	Elective	10-12	1 unit
Band	5	Elective	7-12	1 unit

Physical Education				
Physical Ed. (Girls)		Constant	10-12	1 unit
Physical Ed. (Boys)		Constant	10-12	1 unit
Religious Education				
Religion 1	5	Constant	9	1 unit
Religion 2	5	Constant	10	1 unit
Religion 3	5	Constant	11	1 unit
Religion 4	5	Constant	12	1 unit
Science				
Physics*	5	Elective	11-12	1 unit
Chemistry*	5	Elective	11-12	1 unit
Biology	5	Elective	10-12	1 unit
Physical Science	5	Elective	11-12	1 unit
Aeronautics	5	Elective	10-11-12	1 unit
Social Science				
United States History	5	Constant	11-12	1 unit
World History*	5	Elective	10-12	1 unit
Problems in Democracy	5	Elective	10-12	1 unit
Speech				
Speech	1-5	Elective	10-12	1 unit
Advanced Speech	5	Elective	11-12	1 unit
Speech Workshop	5	Elective	10-12	1 unit

*These subjects are only partially elective as either one or the other in each group must be taken.

College of Family Living

Marion C. Pfund, Dean (1206 SFLC)

The following departments are in the College of Family Living:

- Clothing and Textiles
- Economics and Management of the Home
- Food and Nutrition
- Homemaking Education
- Housing and Design
- Human Development and Family Relationships

Name: Family living has been selected as the name for the college rather than the more familiar name of home economics because family living is more comprehensive and more indicative of the broad objectives of the college. The name reaches out to include relationships among the members of the family as they live within the home and the community as well as the economic aspects of the home.

Objectives: The program in the College of Family Living is designed to provide educational experiences which will help young men and women

(1) to understand themselves and their abilities,
(2) to establish attractive and happy homes in which primary consideration is given to the enrichment and strengthening of family life,
(3) to accept the responsibilities of family members as citizens and members of the community, and
(4) to earn a living in a profession related to homes and families.

These aims are based upon the conviction that abundant living evolves primarily from the happy family. Such objectives have their roots deep within the culture of the L.D.S. people. Family life is the matrix of spiritual development, the foundation of society, and the basic unit of the Kingdom of God.

Marriage and motherhood form the primary focus of living for most women, even though many lead a full occupational life for periods before marriage and may have other full occupational periods after children are grown. For men, the primary focus is achievement in the occupational system; they are expected to be the bread winners throughout life. For the part of her life during which the woman is almost solely wife and mother, her presence in the home may be practically continuous. The father, on the other hand, will be at his job most of the day; his contact with the family is usually less continuous than that of the mother.

The difference in the roles of the husband and wife has definite implication for the education of the two sexes. It suggests that at least in the area of home and family, the woman's preparation may need to be more specific and extensive in several areas of home maintenance and family relationships than is the man's. The demands of the field in which he is carrying major work in order to prepare himself for occupational life after he receives the bachelor's degree may not permit a man to elect many hours of work in the College of Family Living. Ideally, however, he should have some acquaintance with all the areas that the woman has.

For the convenience of men students, one-hour courses are given in the Departments of Clothing and Textiles and Food and Nutrition in addition to many other courses that would be of interest. If a man's choice must be narrowed to one course in the college, work in the area of human development and family relationships would probably be most helpful. Relationships are important to him both in his home and family life and in his occupational life. At the present time only an occasional vocational outlet occurs in a field related to family living for a man with a bachelor's degree. An ever-increasing demand exists, however, for a man with a Master's or Ph.D. degree in the field of human development and family relationships.

Many courses are particularly adapted to meet the needs of men and women students who do not carry major work in a department of the college. A number of courses in the Department of Human Development and Family Relationships serve to help fulfill the University program in general education for the social science group; thus, many men and women may be attracted to these courses. Every student is urged to elect at least one course which will so enrich his life that he will become a better family member.

Scope: The experiences of family living involve the discoveries of science, the insights of the humanities and the fine arts, and the inspiration of religion and recreation, all taught in other colleges of Brigham Young University. Their resources are used liberally in an endeavor to integrate and organize educational experiences which increase human capacities to participate in effective family and community living.

Curriculum: The curriculum of the college is geared partially to the cultivation of competency in coping with the vital daily activities involved in homemaking; the creation and maintenance of an environment of beauty within the home; the preparation of nutritious meals; the effective use of energy, time and money; the creative use of leisure and the capacity to meet the stresses incident to crises. The broad philosophy of family living, however, goes far beyond the learning skills, important as they are. The creation of healthy families and happy homes is one of the foremost challenges faced by our society. The daily tasks involved in parenthood constitute one of life's greatest sources of joy, also one of its most important responsibilities. The college curriculum is geared, therefore, to help men and women recognize the challenge and meet the responsibility towards the end that joy may be fully realized. "Man is that he might have joy."

To the extent that the needs of today's families are understood, course offerings in the college are related to those needs for both men and women students. Within the framework of the curriculum the entire cycle of family life from infancy to old age is considered. The expectancy of early marriage and parenthood and of large families is faced and discussed. The importance of the role men as partners in homemaking is increasingly emphasized. The prolonged period in the lives of men and women after children have been reared becomes part of the thinking and planning of the college student. The many patterns of family living, each with its own economic level, educational background, and cultural heritage, are considered with a view toward the contribution each can make to our families. The important task of preserving and enhancing the integrity of the family is given a primary place. Educational experiences are directed toward the realization of increased understanding of human development and human relationships and toward the realization of increased maturity in personal, family, and community living. The ever-expanding demands made on men and women to participate and assume leadership of the community are stressed.

Professional Opportunities: The course offerings are also designed to supply factual material necessary to prepare students for selected professional service: teaching in specialized areas within educational institutions and nursery schools; working in community child welfare agencies, departments of recreation, and youth organizations; working in commercial test kitchens, in home service centers and in the field of dietetics; or working in consumer education, in extension service as home demonstration agents or in journalism related to the home and family.

Informal Instruction: An important aspect of the College of Family Living is the consultant-teaching service offered to men and women who request assistance with problems of grooming; etiquette; budgeting; care, selection, remodeling, or construction of clothing; daily tasks of management; use of equipment; and purchase and preparation of food for themselves or groups. The college has a laboratory office in the basement of Rogers Hall. Thus through out-of-class informal experiences, men and women are helped to meet practical problems involved in personal and group living and in personal and social development.

Affiliation with the Merrill-Palmer School: The college is affiliated with the Merrill-Palmer School of Detroit, Michigan. This school, established 35 years ago when little endeavor or experience in education for home and family life existed, has the underlying philosophy expressed in a quotation of Lizzie Merrill Palmer:

> "I hold profoundly the conviction that the welfare of any community is divinely, and hence inseparably, dependent upon the quality of its motherhood, and the spirit and character of its home."

At present we are privileged to send to the School several students a year. Before she leaves campus, each student is advised by her counselor. At the school a staff adviser assists the student to plan a course of study whereby her former experiences are augmented and effectively related to her personal needs and potentialities. A basic course having a multi-disciplinary approach is focused on the development of the individual with special reference to the contribution made by the family. Considered also are changes taking place in the social, economic, and political world which affect marriage and the establishment and maintenance of families.

Classes and discussion groups are small. Observation and experience are a vital part of the program. Among the special fields represented by the staff at Merrill-Palmer are psychology, sociology, nutrition, gerontology, child development, nursery education, family life and adult education, marriage counseling, home economics, and religion.

The entire program is intercultural, and the student body a cross-cultural group coming from many foreign lands as well as from all parts of the United States. A student from Brigham Young University would therefore have to be a worthy representative of the Church. She would also need to have an A-B record. Credits earned are allocated to the subject-matter fields by the Brigham Young University in terms of its requirements.

GRADUATION

University Requirements. The University believes that educated men and women should have breadth of knowledge and understanding. As a guide toward such attainments a basic unit of 84 credit hours, selected from a wide variety of subjects, is required for graduation. This general education group includes physical sciences, 9 hours; biological sciences, 8 hours; social sciences, 15 hours; humanities and aesthetics, 15 hours; religion, 24 hours; English composition, 9 hours; and physical health and education, 4 hours.

The University requires a minimum of 186 credit hours for graduation: at least 45 hours must be completed in residence; at least 60 hours must carry upper-division credit (courses marked 300 or above); a major of at least 30 hours and a minor of at least 20 hours shall be included. The successful completion of the program leads to a Bachelor of Science degree. If 24 hours of college credit in a foreign language is acquired, a Bachelor of Arts degree may be awarded. Otherwise, the Bachelor of Science degree is given.

College Requirements. Graduates of the college are expected to have some competency in the several areas which, combined, comprise the broad field of home and family. To this end the college requires that among the 186 credit hours necessary for graduation from the University (page 75), women students shall elect a minimum of 60 and men students a minimum of 50 hours in courses offered by different departments within the college. Among these hours is included the work for the major. The minor may be included.

Minors. Any student in the college may complete a minor in any department in the University. Minors in related departments outside of the college such as art, chemistry, journalism, marketing, psychology, sociology, or speech may be useful in preparing for professional work.

A student carrying a major within or without the college may complete a departmental minor by selecting 20 hours within any of the departments in the college or a composite minor in the broad field of family living by selecting 20 hours in the college.

Women students registered for major work in other colleges of the University might help prepare themselves for the responsibilities of marriage by electing 3 to 5 hours from each of the following groups. Other courses may also be elected.

	Hours
Human Development and Family Relationships	
160 Found. for Marriage	2
*210 Child Development	3
*211 Lab: Observation	1
*322 Exper. with Children	3
360 Achiev. Suc. in Mar.	3
361 Family Relationships	3
440 Adjustment During Later Years	3
Food and Nutrition	
110 Intro. Fd. and Nutr.	4
130 Food Preservation	2
*240 Meal Plan. and Serv.	4
245 Nutr. Mother and Child	3

	Hours
Housing and Design	
120 Weaving	2
135 Household Equipment	3
*360 Home Furnishings	2
*375 Housing	3
*380 Interior Decoration	5
Economics and Mgt. of the Home	
130 Management Eff. Living	3
150 Simp. of Hsehold. Tasks	2
*325 Family Finance	3
Clothing and Textiles	
105 Elem. Clothing Const.	2
110 Selection and Care	2
115 Design and Construction	3
260 Textiles	3

*Courses have prerequisites.

Majors. A student may complete a major in the Department of Clothing and Textiles, Food and Nutrition, Homemaking Education, or Human Development and Family Relationships, or in the combined departments of Economics and Management of the Home and Housing and Design by selecting 30 or more credit hours of appropriate work.

Through the selection of specified courses, a student may become certified for the teaching of homemaking (page 111) or for teaching at the elementary level (page 106.)

A non-departmental major-minor combination is offered in the broad field designated as family living, general. Frequently, students who are not certain as to their major interest begin their work with this combination but select a departmental major by their sophomore year or earlier.

Students who are interested in home demonstration work, home service work with commercial companies, retailing, or writing may continue with the program but will take additional prescribed courses.

All students registered in the college should elect Family Living 101 during Autumn Quarter of the freshman year. For course description see "Family Living" under General List of Courses.

All students registered in the college shall elect two specified groups of courses, **A** from without and **B** from within the college.

The courses in Group A, in addition to serving as a part of the group needed for general education, provide a background for work in the college; thus, they should be elected in the freshman and sophomore years. The courses in Group **B** will help familiarize the student with work in all departments of the college, a desired objective since all are involved in the activities of the home.

A. Courses in departments outside of the college:

		Hours
G-PS:	Chemistry 101 and 102 Inorganic or Organic or their equivalent	9
	Physics 104	3

(An exception may be made for majors in the Department of

Human Development and Family Relationships and the combined Departments of Economics and Management of the Home and Housing and Design. They may arrange to fulfill the physical science requirement in other ways.)

G-BS:	Bacteriology 121 General	4
	Zoology 164 Human Physiology	5
G-SS:	Economics 101 Principles and Problems	5
	Psychology 111 General	5
G-HA:	Art 110 Theory and Practice of Design	2

B. Courses in departments within the college:

	Hours
For women the 60 credit hours shall include courses in	
Clothing and Textiles (CT)	4
Economics and Management of the Home (EMH)	3
Food and Nutrition (FN)	4
Housing and Design (HD)	3
Human Development and Family Relationships (HDFR)	6
	20
The major department in the college	30 or more
Any department or departments in the college	enough to make 60 hours or more
For men the 50 credit hours shall include courses in	
Economics and Management of the Home	3 to 6
Food and Nutrition 110 (or 115 required; another may be elected)	3 to 6
Housing and Design	3 to 6
Human Development and Family Relationships	6
	18
The major department of the college	30 or more
Any department or departments in the college	enough to make 50 hours or more

Required: at least four courses in the first three departments listed with a minimum of 3 credit hours in each department and a minimum total of 12 hours in the three departments, also 6 credit hours in Human Development and Family Relationships.

Advisement. Each student registered in the college has a faculty adviser who will help in the selection of courses and the planning of a desirable schedule. The adviser will also check the student's academic progress and help him use the resources of the University to the greatest advantage.

Students are urged to complete a four-year program. If emergencies arise which make such a plan impossible, the first-year program is planned so that the student gains some experience in the areas of homemaking as well as in general education.

Suggested programs for departmental majors will be found listed among the departments. These programs are such that their successful completion should prepare a student to assume the responsibilities of marriage and also to earn her living in a field related to family living. Before selecting a major, students should have in mind specific jobs in which they are interested. Each student should check carefully with her adviser to be certain that jobs are available in the field in the section of the country in which she wishes to live.

Family Living, General

This program is designed to give guidance to two groups of students: (1) those who are unable at first to decide upon the department of the college in which they wish to complete a major and (2) those who need a broad program in family living to prepare them to become home demonstration agents, to do home service work, or to enter the field of retailing or writing. Students who plan to graduate in the program are required to take Economics and Management of the Home 470.

Freshman Year

	Hours
Religion**	6
English** (determined by placement test)	9
Physical Education and Health**	4
Art 110*	2
Chemistry 101, 102, or 105, 106, 107	9 or 15
Physics 104	3
Psychology 111*	5
Family Living 101**	1
Clothing and Textiles 105, 110, 115	2-3
Economics and Management of the Home 130, 150	2-3
Food and Nutrition 110	4
Human Development and Family Relationships 160	2

Sophomore Year

	Hours
Religion**	6
Bacteriology 121	4
Zoology 164	5
Economics 101	5
Clothing and Textiles 125	3
Food and Nutrition 210, 240***, 255, 256, 264	4-8
Housing and Design 120, 135	2-5
Human Development and Family Relationships 210, 211, 261, Nursing 288	4-6
Electives: Optional courses not elected freshman year, art, journalism, business education and office management, speech, sociology	6-8

*Required

**Required year listed

***Students who plan to elect Food and Nutrition 210 or 264 should take Food and Nutrition 340, not Food and Nutrition 240.

Junior and Senior Years

By the end of the sophomore year or earlier, most students who have followed the program in family living, general, will have affiliated themselves with one of the departments in the college since the non-specialized program does not prepare students to earn a living.

Students interested in preparing themselves to do home demonstration work, home service work in connection with a commercial concern, retailing (selling), or writing in the area of family living may continue in a general program. During their junior and senior years they should complete the University requirements (page 121) and the college requirements (page 121) and in addition elect appropriate courses from the following list.

Home Demonstration Work and Home Service Work: Openings in the field are usually filled by those who have had at least two years of teaching experience. Occasionally a graduating senior with adequate background who is mature and capable is selected. Pre-college activity in 4-H Clubs is desirable.

Speech 101 or 102; Journalism 101 (G-HA), 211; Homemaking Education 377, 382, or 475; Housing and Design 335, 360; Education: Instruction (Audio-Visual Ed.) 305; Psychology 205.

Retailing: Students who enjoy selling may help prepare themselves for responsible positions by finding selling jobs during vacation periods.

Accounting 101; Marketing 347, 459, 465, 470, 471; Psychology 205.

Writing or Journalism: Students who are interested in writing should volunteer for work on University publications.

Journalism 101 (G-HA), 211, 571, 561, 566, electives (5); Psychology 205.

College of Fine Arts

Gerrit de Jong, Jr., Dean (240 C)

The following departments are in the College of Fine Arts:

Art
Music
Speech and Dramatic Arts

The policy of the University has always provided for a liberal patronage of the fine arts. A constantly growing desire to offer greater opportunities for better coordinated academic and professional growth to those whose inclinations and talents lead them into the various fine arts resulted in the organization of the College of Fine Arts in 1925.

With exceptionally well-prepared faculties, who have received the benefits of extended study in recognized schools and art centers, and adequate physical equipment in all departments, the College of Fine Arts has become favorably known for the artistic and academic work done under its direction.

Any course offered in this college that leads to the baccalaureate degree is the cultural equivalent of other college courses offered in the University, differing from them mainly in respect to the emphasis placed on the study of the fine arts.

The Art Department offers curricula in painting, sculpture, crafts, interior design, commercial art, graphics, and art for teachers in the elementary and secondary schools.

The Music Department lists courses in theory of music; musicology; applied music, both instrumental and vocal; music education for elementary and secondary school teachers; and general music for non-music majors.

The Department of Speech and Dramatic Arts lists courses of study in public address and forensics, radio and television, theatre and dramatic arts, speech and hearing rehabilitation, speech education for elementary and secondary school teachers, and general speech for non-majors.

MAJORS AND MINORS

Majors are selected from the work offered in the above-mentioned departments; minors may be selected from them or from other departments in the University which offer allied work.

College of Humanities and Social Sciences

Leonard W. Rice, Dean (241 McK.)

The following departments are in the College of Humanities and Social Sciences:

- Archaeology
- English
- Geography
- History
- Journalism
- Languages
- Political Science
- Psychology
- Sociology

The most fascinating study has always been man—what he has done, what he has thought, what he has said, and how he has reacted to problems confronting him.

The humanities seek to discover, preserve, and disseminate the best of man's thoughts and creations. The social sciences study the activities and relationships of man: his nature, his power to communicate, his environment, what motivates him, how his activities progress, the institutions he has created, and the important social and governmental problems with which he must deal. The humanities and the social sciences are therefore related disciplines who purpose is to help man live in the most intelligent and satisfying manner.

The humanities are the study of what man has created, including his language, literature, art, and the record of his activities as revealed in archaeology and history. The social sciences are younger disciplines utilizing the modern methods of science: controlled observation, laboratory experimentation whenever possible, statistics, and analytical reasoning. Their potential significance for a troubled world is tremendous.

There are two large purposes for which the instructional program of the College of Humanities and Social Sciences is designed. One is the provision of a broad and liberal education, to assist those who obtain it to receive in the fullest measure the values to be found in the complex civilization of today and to contribute to the enlargement of those values in an effective and acceptable manner. The other is the preparation of a more limited group as qualified contributors to the discovery of additional truth to add to our present heritage and as capable professional participants in the productive affairs of daily living.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department. Advisers stand ready to consult with students in the selection of studies that will contribute most effectively to a broad education and to specialized training in each department.

Pre-Legal Course

There is no single prescribed pre-law program. A student may major in any one of several fields as basic preparation for law school. The prime requisite of a successful lawyer is a well-disciplined mind. It must be readily capable of embracing complex situations—identifying subtle distinctions and appraising arguments. It must be able to weigh opposing considerations and be capable of sustained effort over long periods of time. To produce such a mind, the college schedule should include courses intended to expand the mental powers of a student to the utmost and to bring about precision of thought.

The following important advice given by a leading law school may well be noted by pre-legal students:

"Few ideas are most fallacious or harmful than the notion that it is possible to dawdle through high school and college and then make the adjustment to higher standards promptly upon entering the professional school. Essential habits of concentration and effective methods of study must be acquired and developed during the pre-legal years."

In addition to the courses in general education prescribed by the university, it is suggested that a satisfactory pre-legal course might be selected from the following fields: English, political science, history, economics, accounting, psychology, speech, sociology, and mathematics.

Because of the growing tendency of law schools either to recommend or demand that the entering student have a B.A. or B.S. degree, the pre-legal student should plan his freshman and sophomore programs toward the acquisition of a bachelor's degree.

College of Physical and Engineering Sciences

Harvey Fletcher, Dean (293 ESC)

The college is divided into eight departments as follows:

- Air Science
- Chemistry and Chemical Engineering Science
- Civil Engineering Science
- Electrical Engineering Science
- Geology and Geological Engineering Science
- Mathematics
- Mechanical Engineering Science
- Physics

The Department of Air Science is under the direct supervision of regular officers of the United States Air Force. A description of the activities of this department and the requirements for entrance and graduation are given on page 152.

ENTRANCE REQUIREMENTS

In addition to having fulfilled the general entrance requirements of the University, a student entering the College of Physical and Engineering Sciences should have completed successfully the following high school courses:

- 3 units of English
- 3 units of mathematics
- 1 unit of physical science

The three units of mathematics should include elementary algebra, intermediate algebra, plane geometry, and either trigonometry or solid geometry. The physical science courses should include either physics or chemistry.

A student who has not met these requirements must take extra remedial courses as prescribed by the chairman of the department of his selected major before, or concurrently with, the regular course of studies outlined for his department.

PHYSICAL SCIENCES

The four departments in the physical sciences offer a four-year course leading to the degrees of Bachelor of Arts or Bachelor of Science. Candidates for graduation in these departments must meet the general university requirements for such degrees and also must meet the special requirements which are outlined in each department.

The majors offered in these departments leading to a four-year degree are in chemistry, geology, mathematics, physics, pre-dental chemistry, and pre-medical chemistry.

ENGINEERING SCIENCES

A five-year course in chemical engineering science, offered in the Chemistry and Chemical Engineering Science Department, leads to the degree of Bachelor of Engineering Science in Chemical Engineering. Also a five-year course in geological engineering, given in the Department of Geology and Geological Engineering Science, leads to the degree of Bachelor of Engineering Science in Geological Engineering. Similar courses are offered in the Mechanical Engineering Science, the Electrical Engineering Science, and the Civil Engineering Science Departments, leading to degrees in these areas.

A student completing the prescribed course of study in engineering science will receive a broad and comprehensive training in engineering, in addition to the general and religious education given to all undergraduate students at Brigham Young University.

REQUIREMENTS FOR THE BACHELOR OF ENGINEERING SCIENCE DEGREE

To obtain the degree of Bachelor of Engineering Science the student must fulfill the same general educational requirements which apply to the B.S. degree conferred by the Brigham Young University. In addition he must complete the required courses in one field of engineering as described under the respective departmental headings. A total of 245 credit hours is required.

Students who complete the A.F.R.O.T.C. program and who are candidates for the five-year degree may substitute three hours of air science for three hours of required physical education. They may also substitute three hours of air science for any of the general education requirements.

College of Recreation, Physical and Health Education, and Athletics

Milton F. Hartvigsen, Dean (204 SFH)

The following departments are in the College of Recreation, Physical and Health Education, and Athletics:

Health Education (and Safety)
Intercollegiate Athletics
Physical Education - Men
Physical Education - Women
Recreation
Scouting Education

The following additional areas are given special attention:

Dance
Intramural Sports
Pre-Physical Therapy

This newly formed college, unique in American universities, has two significant contributions to make: service and development of leadership.

Outstanding in its services are those functions which contribute to student life. The physical education program provides vigorous participation in specific physical activities which are the cultural heritage of Amerian youth. Basketball, modern dance, skiing, swimming, tumbling, folk dance, football, field sports, gymnastics, softball and other activities provide opportunity for development, expression, and normal participation.

Those students with specialized skills in athletics are encouraged by well-coordinated programs in intramurals and in intercollegiate athletics. Through affiliation with the Mountain States (Skyline) Conference, there are opportunities for competition in basketball, football, golf, wrestling, track, baseball, and tennis. Varsity squads frequently make tours across the country meeting teams of other universities.

This college takes initiative in developing leadership for both new and established professional areas. The opportunity for leadership by educated men and women is always unlimited. The demand is particularly high for those whose professional areas lie within this college. Professional training is emphasized in these major fields: recreation, scouting education, physical education, and health education. Certification for teaching in Utah may be completed and certification for teaching in other states may be arranged readily. Dance and pre-physical therapy are given attention as areas in which students may specialize.

Brigham Young University is the first university to offer a major in scouting leadership. The program is two-fold: the training of men for professional scouting and the preparation of men to serve the church and community in youth leadership capacities.

Brigham Young University alumni have gone to all points of the globe and have actively guided church members and communities to the ends of abundant and wholesome living. The Church of Jesus Christ of Latter-day Saints, through its beliefs and its teachings, has developed a real heritage in health practices and in family, church, and community recreation. The Brigham Young University, in harmony with the objectives of the Church, plans not only for participation of its members, but prepares for an active and ongoing leadership.

Department of Recreation. This department has a number of basic functions in fulfilling its responsibility to the students, the university, the church, and the nation. Among the responsibilities specifically recognized are (1) to prepare professional recreation leaders, (2) to qualify voluntary leaders for church and community, and (3) to provide activities for students and faculty. To achieve these goals, this department has developed an expanded curriculum and secured many new facilities; others are being planned for the immediate future and a highly trained staff is being assembled.

The general purpose of the expanding intramural program is to afford all students the opportunity to take part in a well-organized program which includes a wide range of activities. An extensive program for both men and women is provided.

Departments of Physical Education. These departments, one for men and one for women, work together in providing (1) service courses, (2) professional training for prospective teachers of physical education and athletic coaching on the undergraduate and graduate levels, (3) special curricula in dance and pre-physical therapy.

Many courses are coeducational. Courses of specific interest, such as boxing, wrestling, and field hockey, are on a non-coeducational basis.

Physical education aims to develop organic power, physical fitness, skill in activities and enthusiasm for useful and desirable pursuits for use during lifelong leisure time. It also aims to develop social habits and attitudes directed toward the preparation of students for leadership roles in college, church, family, and community life.

Department of Scouting Education. The objectives of the Department of Scouting Education are two-fold: to train college men in the basic knowledges and skills of the scouting program to the end that they can serve better their church and the community in which they live and to provide training for prospective professional career men in youth leadership for the Boy Scouts of America and other allied organizations.

The need for trained youth leaders is greater now than at any time in the history of the world and does not lessen with increased population.

It is our sincere hope that each male member of Brigham Young University student body will avail himself of this specialized training so that he may be prepared to help either his church as a volunteer or his nation as a professional scouter.

Department of Health Education. In this department emphasis is placed on the educational aspects of health including safety and driver education as well as instruction in the health sciences. This department, as well as other agencies, functions in the promotion of proper health attitudes and practices. It also cooperates with the home, university health centers, physicians and dentists, the public health department, and many other groups which have a responsibility in the promotion of health. The health curriculum deals primarily with health instruction where stress is placed on personal hygiene, sanitation, nutrition, and personal safety practices. Courses are offered for all students and for teachers working toward certification in public schools of the state.

Department of Intercollegiate Athletics. Brigham Young University is a member of the Mountain States (Skyline) Conference and the National Collegiate Athletic Association. The school competes in all sports sponsored by the conference.

The athletic program at Brigham Young University serves as a vital educational training ground and laboratory dedicated to teaching young men important individual traits which will better enable them to perpetuate the American tradition. The program is designed to develop such characteristics as capacity to lead and direct, respect for discipline and authority, social and moral understanding, ability to act effectively under stress, capacity for self-discipline in the interest of accomplishment, and determination to overcome obstacles. Individual and team play promotes cooperation, sportsmanship, health, strength, and bodily vigor in the participants.

Graduate School

A. Smith Pond, Dean (356 McK)

General Information

PURPOSE

The Graduate Division of Brigham Young University was established as an administrative unit in 1922, 47 years after the founding of the Brigham Young Academy in 1875. The objective of graduate study was then stated in these terms: "The essential aim . . . is to develop the power to do independent work and to encourage the spirit of research. Each candidate is expected to possess a broad general knowledge of his major subject with less detail in the case of his minor subjects."

Educational institutions such as Brigham Young University reflect the aspirations and problems of the American people. They carry the ideals, dreams, and hopes of democracy from generation to generation. Their ranks must be filled with men and women trained in the skills, the arts, and the sciences and dedicated to a higher spiritual understanding through which all men can work for the common good.

FACULTY OF THE GRADUATE SCHOOL

In the early years, all graduate registration was made through a committee on graduate work. The first chairman of graduate work was appointed 1925. Since the establishment of the Graduate School in 1929, all graduate study has been under the direction of a dean.

The faculty of the Graduate School is composed of those who hold the rank of professor or associate professor in all departments offering graduate degrees. Other regular members of the teaching staff of the University are eligible to teach graduate courses and serve as chairmen and members of students' special committees if approved by their respective departments and the graduate council.

The chief administrative body of the graduate faculty is the Graduate Council, which consists of (1) the president of the University, the dean of the Graduate School, and the director of research, ex officio; (2) four members of the graduate faculty elected at large for terms of three years; (3) eight members of the graduate faculty, one elected from each of the eight colleges in which there are departments offering graduate work; and (4) one member elected to represent the Division of Religion. The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for graduate instruction and supervision. It is the responsibility of the graduate faculty to formulate and recommend requirements for all graduate degrees and to recommend regulations and facilities to promote the scholarly activities and research interests of graduate students.

LIBRARY FACILITIES

The Heber J. Grant Library, containing the general library and certain special collections, includes over 225,000 books, government documents, pamphlets, and bound magazines. Approximately a thousand periodicals are received regularly. Some of the outstanding collections available to students are the Boyle Collection in geology, the Gates Collection on the history, archaeology and linguistics of the Maya area, the Robert Burns Collection, and the National Welsh Library.

Special Libraries. The Albert C. Boyle Science Library, housed in the Eyring Physical Science Center, includes books and periodicals in physical science, radio, engineering, photography, and antiquities, and an extensive map collection.

The facilities of the L.D.S. Genealogical and Historical Library in Salt Lake City, which contains over 500,000 titles, are available by special arrangement, as are the collections of Utah and Mormon materials in the L.D.S. Church Library in the same city.

SUMMER SESSIONS

Graduate students who do a part of their work at the University during the summer will find a wide range of graduate courses suited to their purposes. A full quarter of work is offered in the summer school, which is divided into two terms so that students may attend only part of the summer if they desire. Graduate students may register for a maximum of nine credit hours per term.

SCHOLARSHIPS, ASSISTANTSHIPS AND FELLOWSHIPS

Fellowships and Scholarships. The University has established the following fellowships and scholarships for graduate students:

10 fellowships which provide for free tuition and remission of fees plus $1,000.
5 scholarships which provide for free tuition and remission of fees plus $750.
5 scholarships which provide for free tuition and remission of fees.

These scholarships and fellowships are awarded on the basis of high academic achievement and are available to students in all areas of graduate study. Recipients must possess a baccalaureate degree at the beginning of the period for which the scholarship or fellowship is granted and be a candidate for a higher degree. Applications for the academic year beginning in September should be filed by the preceding March 1. Application forms may be obtained from the office of the Committee on Scholarships and Fellowships.

Teaching and Laboratory Assistantships. Many departments employ graduate students as teaching or laboratory assistants. Assistantships are awarded on the basis of scholastic accomplishment and competence for service. Remuneration is based on the time which is devoted to teaching duties. The stipends vary from $125 to $1800 per year, not including tuition and fees. Application forms and detailed information may be obtained by writing to the chairman of the department in which the applicant wishes to become an assistant.

Research Assistantships and Fellowships. A substantial number of research assistantships and fellowships are available at Brigham Young University. Recipients work part time under the supervision of a faculty member on research projects which are supported by University, government, or private sources. The awards vary from $1,200 to $2,100 per school year, depending upon the type of research and the amount of time devoted to it. Students interested in appointments to research assistantships or fellowships should direct inquiries to the director of research or to the chairman of the major department.

Admission Procedure

A bachelor's degree or its equivalent from an accredited college or university is required for admission to the graduate school. Admission is by means of registration permits issued by the University Admissions Office; application forms will be furnished by that office on request. Official transcripts of credit covering all work at institutions attended must be filed with the Admissions Office before registration permits can be issued.

Permission to register for graduate work does not in itself imply that the student is accepted or will be accepted as a candidate for an advanced degree. Application for acceptance as a degree-seeking student is a separate and subsequent step to be initiated by the student himself at the office of the Graduate School.

Admission to the Graduate School on a Degree-Seeking Basis

APPLICATION

After a student has been officially admitted to graduate study by the University Admissions Office, he is eligible to apply for classification as a degree-seeking student. This is accomplished by (1) completing the application form furnished by the graduate school office, and (2) submitting statements of recommendation from three persons who can certify to his fitness for graduate work. At least one recommendation must be from an instructor in the student's major field and at least one from an instructor outside of that field. The recommendation forms are provided by the Graduate School.

As soon as credentials are complete, they will be sent to the chairman of the department in which the student proposes to do his major work. There the applicant's fitness for graduate work is considered and recommendations are made if extra course work is required to make up background deficiencies. Such supplementary work may be taken in the University after registration for graduate study. Foreign students especially are urged to correspond with the head of the department concerned to ascertain whether their preparatory work will be acceptable to the department and the Admissions Office.

GRADUATE RECORD EXAMINATION

All students applying for admission to the Graduate School on a degree-seeking basis are required to take the Graduate Record Examination before registration or early in the first quarter of study. This examination is administered in Utah and elsewhere four times yearly. For information on dates, registration, and costs, write to Educational Testing Service, Box 27896, Los Angeles 27, California.

The Graduate Record Examination is an educational achievement test for persons entering any field of graduate study. The results are charted and compared with averages of selected groups of graduate students. If a student receives a low score, he may be required to take additional background or preparatory courses, or he may not be admitted as a degree-seeking candidate until he has satisfactorily completed one quarter of graduate work at this University.

General Requirements for Advanced Degrees

SPECIAL COMMITTEE

The student's program and his thesis are pursued under the direction and supervision of a special committee consisting of two members selected by the student from his major and minor fields after he has been admitted to the Graduate School as a degree-seeking candidate. The composition of the committee is approved by the head of the department in which the student is to do his graduate work. All faculty members who offer courses carrying graduate credit are eligible to serve as chairmen and members of special committees. The candidates shall secure the committee members' acceptances and report them to the dean on the appropriate form within six weeks of the date of first registration as a degree-seeking student.

A student may change the membership of his special committee with the approval of all members of the newly constituted committee and the dean of the Graduate School. After such a change he reviews his entire program with the new committee.

CREDITS

Amount and Distribution. The master's degree requires the completion of 45 or more quarter hours of credit, at least 30 hours of which must be approved by the special committee prior to registration. All graduate work must be in the

500 series or above. At least 25 hours must be in the 600 or 700 series unless an exception to this requirement is approved by the dean of the Graduate School.

At least 23 of the hours must be in the major field and at least 15 in a minor field; at least three-fourths of all work taken after admission to graduate study must be of grade B or better, and none may be of a grade lower than C. At least 15 hours in the major field and 10 hours in the minor field must consist of courses for which there is a systematic body of subject matter identified with a given course number such as ordinarily constitutes a formal course. Seminars, special readings, and special problems may not be included in these totals.

Graduate Credit for Seniors. If during the last quarter of the senior year, a candidate for a baccalaureate degree finds it possible to complete all requirements for such a degree with a registration of fewer than sixteen quarter hours of undergraduate credit, he may register with the dean of the Graduate School for graduate credit to the extent that the total registration shall not exceed sixteen quarter hours during the quarter. Written verification that all requirements have been met must be obtained from the appropriate undergraduate dean and presented to the dean of the Graduate School prior to such registration. Students who exercise this privilege must be willing to limit their course loads as do graduate students. This is the only condition under which an undergraduate student may receive graduate credit for a course, and this registration does not constitute admission to the Graduate School.

Transfer Credit. Graduate work up to 15 quarter hours may be transferred from other institutions upon the approval of the student's special committee and the Graduate Council. Forms for petitioning for such transfers are available in the office of the Graduate School. Credit transferred must represent work which is a fair and reasonable equivalent of corresponding work in this University. All transferred credit must be of a grade of B or better.

Extension Credit. A graduate student may earn credit toward the master's degree for courses given through the Extension Services of Brigham Young University provided such courses are approved by his special committee and by the dean and the Graduate Council.

Limitation of Transfer and Extension Credit. Not more than 15 quarter hours of combined extension and transferred work may be applied toward the requirements for an advanced degree, and such credit cannot be used to reduce the residence requirements to less than the minimum of 30 quarter hours to be completed on the Brigham Young University campus. Extension credit acquired at other institutions and credit gained by special examination and correspondence will not be accepted.

ENGLISH 99

Students whose ability to write clearly and correctly is not deemed satisfactory by the department involved are required to enroll in English 99, a non-credit course in Problems in Thesis Writing. The course is equivalent to two credit hours and is regarded as part of a student's registration for that amount. It should be taken at the earliest possible time.

RESIDENCE

Of the 45 quarter hours required for the master's degree, at least 30 quarter hours of approved courses must be taken in residence on the Brigham Young University campus. Residence shall be defined as registration and attendance in courses, seminars, field classes, or other types of instruction conducted on the campus of the University during a regular quarter.

STUDENT LOAD

No candidate for the master's degree will be permitted to register for more than 16 quarter hours in any one quarter. Teaching assistants and others employed approximately one-half time should limit their loads to not more than 12 quarter hours, and full-time employees to not more than 5 hours. Experience has shown that because of the intensive character of graduate work and the academic grade-point average required, it is usually advisable for graduate students to limit their programs to something less than the maximum permitted when employed on a full or part-time basis.

MASTER'S THESIS

Procedure. The prospective candidate for the master's degree enrolls for a thesis (course 699) in his major department, preferably two quarters before the scheduled completion of his program. A student whose major is English, or music theory, or theatre and dramatic art, or painting and sculpture, or design, may substitute for the thesis requirement a piece of creative work. At the beginning of his research or creative work the student must provide the chairman of his special committee with an outline or prospectus and secure approval on a form provided by the Graduate School. **He is required to complete at least one full quarter of residence study after the date on which the form and prospectus are delivered to the dean.** A complete, signed, but unbound copy of the thesis must be on file in the office of the Graduate School and with the chairman of the special committee 15 days prior to the final examination and not later than 30 days before graduation.

Style and Form. Kate Turabian, **A Manual for Writers of Dissertations,** shall be used as the guide. Other manuals may be used for supplementary help where needed, but the Turabian manual shall take precedence in any case of difference.

Paper. The first copy of the thesis must be on 16 pound bond, with 100 per cent rag content, with water-marked margins, 1¼ inch on the left and 1 inch in the other margins, the grain of the paper to run the long way of the page. Other copies should be on 100 per cent rag content bond paper, not lighter than 13 pound, and may be without the water-marked margins.

Carbon Copies. Carbon copies must be made with Carter's Midnight Carbon Paper or equivalent, carbons to be changed often enough for acceptable legibility.

Typing. Typing must be done with standard elite or pica type, but not with both; spacing may be either 1½ or double.

Reprints. Should the thesis be published, reprints may be substituted for the typed copies, provided they are in acceptable form for binding.

Binding. For the sake of uniformity, binding must be done through the Students' Supply Association.

Delivery of Theses. The student's responsibility for binding and delivery of the thesis is completed upon submission to the graduate dean of a receipt from the Students' Supply Association indicating delivery to it of the original, first, second, and third carbon copies (identified as such in pencil on the title pages), ready for binding, and upon payment of the binding fee.

Abstracts. Each candidate is required to furnish abstracts of his master's thesis, one abstract to accompany each copy of the thesis. The abstract is to have a maximum length of 1400 words and should be bound with the thesis, following the bibliography.

APPROVAL FOR GRADUATION

Securing approval for graduation and permission to schedule the final examination is the responsibility of the candidate. At the time of registration for courses that will complete all credit requirements for the degree, the student must file with the dean, on a form provided, a request for such approval. The final examination should not be scheduled until this is obtained.

FINAL ORAL EXAMINATION

The passing of a final oral examination not fewer than fifteen days prior to graduation is required. It is the duty of the student to schedule the final examination after obtaining from the chairman of his major department the names of the examining committee. Forms are available for this purpose.

The examination is conducted by a committee of five voting members, to be made up of the members of the special committee and others appointed by the chairman of the major department. The chairman of the special committee is in charge of the examination. Four affirmative votes are needed to pass. Other members of the graduate faculty may attend the examination and enter the discussion, but they may not vote.

TIME LIMIT

All requirements for the master's degree must be completed within six years from the date when the student registers for the first graduate work which is applied toward the degree.

Degrees

MASTER OF SCIENCE DEGREE

The master of science degree is awarded upon completion of the requirements listed above.

MASTER OF ARTS DEGREE

The master of arts degree is awarded upon completion of the requirements listed above, plus completion of the foreign language requirement for the A.B. degree.

MASTER OF EDUCATION DEGREE

The master of education degree is awarded upon completion of the requirements for the master of science degree, with the following exceptions: (1) a satisfactory field project (course 698) may be substituted for the thesis, and (2) a total of 45 hours' credit shall be presented in addition to the field project.

The project shall be a study of a practical problem in the field of the candidate's interest as a teacher. The problem is selected and developed by the student, subject to the approval of his special committee. A prospectus must be filed in the office of the Graduate School at the time of registration for the project. The finished report on the project shall conform to the requirements for a thesis in matters of style, format, and manner of filing. It is recommended that a candidate complete not less than one year as a teacher before beginning the field project.

School of Nursing

L. Bernice Chapman, Director

The basic collegiate program in nursing prepares young men and women to become professional nurses able to fill beginning positions in all the clinical areas of nursing: maternal and child care, medical-surgical nursing, public health nursing, psychiatric nursing, etc. It is expected that these nurses can function productively to contribute to comprehensive patient care, to the prevention of illness, and to the promotion of health through working with patients and with professional and community groups. The program also endeavors to support growth of the individual so that he or she may enjoy a satisfying and useful personal, family, and community life.

The program leads to a Bachelor of Science degree and is planned to meet the requirements and standards for accredited schools of nursing on state and national levels. All instructors are full-time University faculty members and have general and professional educational backgrounds consistent with the academic rank they hold.

Admission Requirement

All applicants must meet University admission requirements. Prospective students are also advised to take three and preferably four units of English, one unit of algebra (a unit of geometry is desirable), and a unit of chemistry and/or a unit of biology, preferably both.

A student may register in the School of Nursing in the first quarter or may enroll in one of the prescribed courses for general registration and then transfer to the School of Nursing. Students considering nursing as a major should consult the School of Nursing as early as possible. Personal interviews with a faculty member and completion of special forms are required during the first year at the University.

Eligibility for continued registration in the School of Nursing will be determined by health records, adaptability to nursing as evidenced by attitudes and skills, and university grades. The grade average requirements are as follows:

a. First quarter freshman students must make a 1.75 grade average.

b. Second and third quarter freshmen must make a 2.00 grade average. Students making a 1.75 to 2.00 average in either the second or third quarter may continue their registration on probation.

c. The cumulative grade average for freshman students at the end of three quarters must be 2.00. Students making a 1.90 to 2.00 average may continue registration on probationary status during their fourth quarter.

An average grade of "C" must be maintained each quarter.

Educational Facilities

Students use the same facilities and have the same cultural opportunities as all other students on the campus. The newest and most effective teaching aids and equipment are provided in the School of Nursing laboratories and classrooms. The facilities utilized for nursing experience change from year to year depending upon the needs of the students and the learning experiences selected by the faculty. At present, clinical experience is provided in the Latter-day Saints Hospital in Salt Lake City, the Primary Children's Hospital in Salt Lake City, the Utah Valley Hospital of the Church of Jesus Christ of Latter-day Saints, in Provo, Utah State Hospital, Utah City-County Health Department, Salt Lake City Health Department, and other community agencies. The hospitals are approved by the Joint Accreditation Committee of the American Hospital Association, the American College of Surgeons, and the American Medical Association.

The Latter-day Saints Hospital has a capacity of 347 adult beds and 86 bassinets. It provides clinical fields for the practice of medical, surgical, operating room, obstetric, and pediatric nursing.

The Primary Children's Hospital in Salt Lake City, with a bed capacity of 100 including an isolation unit of 12 beds, provides experience in the care of the child.

The Utah Valley Hospital of the Church of Jesus Christ of Latter-day Saints has a current capacity of 115 beds and 35 bassinets. At the present time these facilities are used for the practice of beginning nursing skills.

Utah State Hospital is used for experience in psychiatric nursing.

The Utah City-County Health Department and the Salt Lake City Health Department provide a generalized public health nursing program and offer field experience to students in nursing.

FEES

Total educational costs including board, room, and uniforms are borne by the student. See section titled "University Fees" for a listing of general University expenses. An itemized estimate of the costs for a student in the School of Nursing is available upon request.

Curriculum

The curriculum of the School of Nursing is organized to provide a balance of general and professional education. General education courses which partially fulfill University requirements are given in the first three quarters. In the second year, courses in professional nursing are correlated with general education. Nursing courses predominate in the last two years.

The course of instruction covers four academic years plus two summer quarters. Clinical practice is a closely supervised laboratory experience with theory courses given concurrently. Courses which help to develop communication skills, social and civic responsibilities and understanding of human behavior are provided throughout the nursing program.

Students must meet both nursing and general education requirements for graduation.

Division of Religion

The President of the University is the Head of the Division of Religion.

Sidney B. Sperry, Director of Graduate Studies (122 S).

B. West Belnap, Director of Undergraduate Studies (222 S).

The following departments are in the Division of Religion:

Bible and Modern Scripture
Church History
L.D.S. Church Organization and Administration
Theology and Philosophy

The Division of Religion administers all religious instruction and is responsible for the program of religious activities which is sponsored by the University. Through its departments every student in the University is given the opportunity to benefit from religious instruction.

Students in any college of the University who complete thirty-four quarter hours of religious instruction, which must include at least four hours in each of the above-named departments of the Division of Religion, will receive special recognition for such achievement at the time of their graduation.

It has always been the view of the Church of Jesus Christ of Latter-day Saints that in the training of its youth there should be a proper integration of moral and religious values with secular knowledge. From its inception Brigham Young University, firm in the belief that no life is full and complete unless established upon a sound ethical and religious basis, has offered courses in religion.

Brigham Young University is the University for the Church of Jesus Christ of Latter-day Saints. One of its important aims is to develop its students spiritually as well as scholastically, to enable them to live more rounded and complete lives. The faculty of this institution, therefore, are active members and leaders of the Church, all of whom have a deep spiritual insight and a desire to instill this insight into the students with whom they come in contact.

7 have served or are now serving as mission presidents.

53 have served or are now serving in general auxiliary boards of the Church.

38 have served or are now serving in stake presidencies.

135 have served or are now serving in ward bishoprics.

93 have served or are now serving in high councils.

252 have served in various other auxiliary, teaching, and priesthood capacities in the Church and 289 are now teaching in auxiliary organizations or priesthood quorums.

166 have served or are now on leave serving on foreign missions.

All of the officers of the Air Reserve Officer Training Corps are active members of the Church. Three are now serving as members of bishoprics. Eight have been on missions, and 16 are now actively engaged in administrative and teaching positions in Church auxiliary organizations.

List of Courses

General

New Course Numbering System. Effective with this catalog the following course numbering system will be used by all departments of the university:

Course Number	Type of Course
1 to 99	Preparatory and remedial (non-credit)
100 to 299	Lower Division
300 to 499	Upper division
500 to 599	Advanced undergraduate or graduate
600 to 799	Graduate

This system replaces the numbering system used heretofore: 1 to 99, remedial and lower division; 100 to 199, upper division including advanced undergraduate and graduate; 200 to 299, graduate.

To minimize confusion during the period of changeover, the old course number is listed in parentheses after the new number in departmental course listings. This is, however, the only place in the catalog where old numbers appear. **In all areas except the course listings, new numbers are used exclusively.**

Credit Hour Designation. A second change in course listing is the use following the course title of a three-number designation (5:5:0) for credit hours rather than the one-number designation (5) previously used. The three-number code has the following significance:

First number:	Quarter hours of credit
Second number:	Class hours of lecture, recitation, or seminar meeting per week or Minimum hours of individual study required per week
Third number:	Laboratory hours required per week or Hours of field study or individual research per week

Cross Referencing of Courses. Yet another change is in the cross referencing of courses. Each course will be listed completely only once in the catalog. If the course may count in another department, it will appear in a special grouping at the end of the course listing for that department.

Inter-departmental Courses. In the College of Family Living an inter-departmental course is taught, Family Living 101, Orientation to Family Living. In the College of Physical and Engineering Sciences, a three-course series, Physical Science 101, 102 and 103, Concepts of Physical Science, is taught. Also taught in this college are Physical Science Education 377, 478 and 479. In the course listing which follows, these courses appear under the headings Family Living and Physical Science rather than in a specific department.

Graduate Courses. For regulations governing study beyond the bachelor's degree, see the Graduate School section of this catalog and the Graduate Catalog. Advanced undergraduate or graduate courses (500 series) may be used for graduate credit with certain limitations.

Reservation of Right to Change Courses. At the time of printing of this catalog, the University intends to give the courses listed herein, but reserves the right to eliminate or discontinue any of them or to add new courses.

Courses

Accounting
Agricultural Economics
Agronomy
Air Science
Animal Husbandry
Archaeology
Art
Bacteriology
Botany
Business Education and Office Management
Chemistry and Chemical Engineering Science
Civil Engineering Science
Clothing and Textiles
Economics
Economics and Management of the Home
Education: Instruction
Educational Administration
Educational Research and Services
Educational Values and Programs
Electrical Engineering Science
English
Family Living
Finance and Banking
Food and Nutrition
Geography
Geology and Geological Engineering Science
Health Education and Safety
History
Homemaking Education
Horticulture and Horticultural Specialties
Housing and Design
Human Development and Family Relationships
Industrial Arts and Drawing
Industrial Management
Journalism
Languages
Library Science
Marketing
Mathematics
Mechanical Engineering Science
Music
Nursing
Physical Education
Physical Science
Physics
Political Science
Psychology
Recreation
Religion
Scouting Education
Sociology
Speech and Dramatic Arts
Zoology and Entomology

Accounting

Professors: H. V. Andersen (chairman, 162 N), R. J. Smith.
Associate Professor: J. T. Bentley*.
Assistant Professor: E. A. Johnson.
Instructors: Brough, A. P. Johnson, Squire, White.

Although the profession of accounting is relatively young, it is growing rapidly and offers unlimited opportunities for professional recognition, financial reward, and public service.

A broad variety of careers is open to the trained accountant. He may practice the profession of public accounting, take a salaried position as the accountant or financial officer of a business organization, engage in a government service as an accountant, or enter the teaching profession. It is a basic tool of every person who engages in business activity.

In addition to the regular four-year program leading to a bachelor's degree, a five-year program leading to a master's degree and especially designed to prepare the student for the C.P.A. examination is now offered.

Suggested Program for Accounting Majors

The courses listed below include both the University and the departmental requirements.

	Fr.-So.	Jr.	Sr.	Gr.
General Education				
*Religion	12	6	6	
*Physical Science	5	4		
*Biological Science	8			
*English 111, 112, 113	9			
*Social Science (Incl. Hist. 170)	10			
*Physical Educ. & Health	4			
*Humanities	15			
General Business and Tool Courses				
Mathematics 111	5			
*Economics 101	5			
*Economics 231	5			
*Marketing 347		5		
*Finance & Banking 348		5		
*Economics 345		5		
*Industrial Management 340		5		
Other Electives	10	7	8	18
Accounting				
*Elementary 201, 202	10			
*Business Math 230	5			
*Cost 285	5			
*Machine Accounting 316		2		
*Intermediate 350, 351, 352		15		
Taxes 450			3	
*Business Law 457, 458, 459			12	
Theory of Accounts 545			5	
Systems 555			5	
Auditing 565			5	
Advanced 570			5	
Advanced Taxes 582			5	

C.P.A. Coaching 586, 587, 588				12
Internship 596				3
Thesis 699				6
Totals	108	54	54	39

*Required courses.

Note: Those expecting to go into private or industrial accounting should consider Drawing 102. Blueprint Reading, and Accounting 584, Advanced Cost Accounting.

Those planning to go into controllership accounting should take Industrial Management 587, 588, 598, Problems in Business Management.

Lower Division Courses

101 (1). **Elementary Accounting.** (5:5:0) A.W.S. Staff
An introductory course for freshman students who have had neither training nor experience in accounting or Mathematics 101 or its equivalent.

102 (2). **Elementary Accounting.** (5:5:0) A.W.S. Staff
Continuation of Accounting 101.

201 (New). **Elementary Accounting.** (5:5:0) A.W.S. Prerequisite: High school bookkeeping or Mathematics 101 or its equivalent. Staff
An introductory course designed for the student whose major field demands a more rigorous course than Accounting 101.

202 (New). **Elementary Accounting.** (5:5:0) A.W.S. Prerequisite: Accounting 201 or 101 and special permission. Staff
A continuation of Accounting 201. Required for accounting majors.

230 (35). **Mathematics of Business.** (5:5:0) A.W.S. Prerequisite: Mathematics 101 or equivalent.
Application of mathematics to business; includes markup pricing, discounts, simple and compound interest, annuities, amortization, sinking funds, bond valuation and depreciation.

285 (85). **Cost Accounting.** (5:5:0) A.S. Prerequisite: Accounting 202. A. Johnson
An introduction to the principles and practices of cost accounting.

Upper Division Courses

316 (125). **Machine Accounting.** (2:2:1) A.W.S. Prerequisite: Accounting 101 or 201. Staff
Accounting procedures and analyses involving the use of electronic equipment and its application to payroll, inventories, financial statements, sales purchases and other accounting information.

350, 351, 352 (150, 151, 152). **Intermediate Accounting.** (5:5:0 ea.) A.W.S. Prerequisites: Accounting 202 or 102 and special permission. Staff
This course is designed to meet the requirements of two groups: (1) general business students primarily concerned with the interpretation and use of the products of accounting and for whom this course may be the final formal study in this field, and (2) students who have chosen accounting as a career and for whom the intermediate course must provide a broad foundation for the specialized studies to follow.

440 (187). **Municipal and Government Accounting.** (3:3:0) S. Prerequisite: Accounting 351. Staff
Operation and auditing of municipal and government accounts.

450 (188). **Federal and State Taxes.** (3:3:0) A.W. Prerequisites: Accounting 102 or 202 and preferably 350 or Industrial Management 332. Lowe, Anderson

A study of federal and state tax legislation and regulations with emphasis on individual income tax.

457 (F. & B. 157). Commercial Law. (4:4:0) A. Andersen
Fundamental legal principles and institutions; a study of the formation, operation, effect, and performance of contracts and laws governing the agency relationship.

458 (F. & B. 158). Commercial Law. (4:4:0) W. Andersen
Laws governing (a) negotiable instruments and the rights and liabilities of parties thereto, (b) real and personal property, and (c) sales and bailments of personal property.

459 (F. & B. 159). Commercial Law. (4:4:0) S. Andersen
Laws governing relationships arising out of business associations: partnerships, and corporations. Examination of the leading cases decided by the courts.

Advanced Undergraduate or Graduate Courses

545 (175). Theory of Accounts and Statements. (5:5:0) Not offered this year. Staff
A brief study of the history and development of accounting and financial statements, their meaning and interpretation. Current accounting problems will be reviewed.

555 (185). Accounting Systems, Procedures and Methods. (5:5:0) W. Staff
Selection and design of accounting systems and procedures. Preparation of the accounting manual, financial reports, and statements.

565 (194). Auditing and Professional Ethics. (5:5:0) A.S. Prerequisite: Accounting 352. Staff
Principles and methods of public accounting. Professional responsibility and conduct, techniques of verification of accounts and financial statements. Audit working papers.

570 (280). Advanced Accounting. (5:5:0) A. Prerequisite: Accounting 352. Staff

571, 572 (281, 282). Industrial Internal Auditing. (3:3:0 ea.) W.S. Not offered this year. Prerequisites: Accounting 352, 565 or equivalent. Staff

582 (288). Advanced Tax Problems. (5:5:0) S. Prerequisite: Accounting 450. Lowe, Andersen

584 (294). Advanced Cost Accounting. (3:3:0) S. Staff

586, 587, 588 (296, 297, 298). C.P.A. Coaching. (4:1:0 ea.) A.W.S. Prerequisites: Accounting 285, 352, 565, and the following, which should be taken before or with C.P.A. Coaching: Accounting 440, 450, 570. Staff
Evening sessions.

593 (293). Reading and Conference. (1-5:1-5:0) A.W.S. Subject to be arranged with instructor. Staff

596 (196). Accounting Internship. (3:0:40) Staff

Graduate Courses

699 (300). Thesis for Master's Degree. (Arr.) Staff

These courses also count in Accounting:

Business Education and Office Management 106. Calculating Machines. (2:5:0)
Ind. Management 587, 588, 589. Problems in Business Management. (3:3:0 ea.)

Agricultural Economics

Associate Professors: Corbridge (chairman, 171 B), Nelson.

The Department of Agricultural Economics emphasizes the business and economic aspects of agriculture. A wide range of electives permits a student in this department to choose course work from many different areas. The student should adapt his study program to his particular interest and needs.

The Department attempts to serve students primarily concerned with (1) farming as a career, (2) training for employment with business devoted to the production and distribution of agricultural products, (3) business and governmental institutions rendering services to agriculture, and (4) training for careers in research and teaching.

Thirty hours are required for a major in agricultural economics including Agricultural Economics 101, 123, 125, 230, 310, 350, and 425.

It is recommended that students training for professional employment take Economics 345. Students working toward graduate degrees are also encouraged to take Economics 586. Credit for Economics 345 and 586 will apply toward major credit.

Agricultural economics majors are encouraged to take several classes in each of the other agricultural departments. At least two courses are required from each of the following areas:

Agronomy 141, 251
Animal Husbandry 101, 161, 170, 207
Horticulture 101, 102, 103

In addition, students returning to the farm should take at least two courses in industrial arts.

Lower Division Courses

101 (New). **Economics and Agriculture.** (5:5:0) A.S. (G-SS) Corbridge, Nelson
Basic general education course in economics covering the same theoretical framework as in Economics 101, but with special reference to the agricultural sector of the economy.

123 **(23). Farm Accounting.** (3:3:0) A.W. Corbridge
Elementary study of basic records needed for income tax computation and effective farm management, their compilation, interpretation, and use.

125 (25). **Farm Management.** (3:3:0) A.S. Corbridge
A general consideration of farm management, with special reference to land use programs, livestock systems, power, labor, and machinery inputs, farmstead planning, farm records, and finance.

230 (New). **Introduction to Statistics.** (3:2:1) A.W. Staff
A terminal course intended for the undergraduate student who desires only a cursory view of the field of statistics.

Upper Division Courses

310 **(110). Marketing Farm Products.** (3:3:0) A. Nelson
Economic principles, marketing agencies, methods of selling, channels of distribution, market information, current research, and regulations affecting major farm products.

320 **(168). Agricultural Cooperatives.** (3:3:0) S. Nelson

Organization, financing, management, price policy, membership and public relations; factors affecting the success of cooperative associations.

325 (140). Advanced Farm Management. (5:5:0) W. Prerequisites: Economics 101, Agricultural Economics 125, or special permission of the instructor. Corbridge

Practical application of principles of production economics, combination of productive resources, measures of efficiency, farm accounts, financing, contracts, and other factors affecting success.

350 (191). Western Land and Range Problems. (3:3:0) W. Nelson

Land and range requirements. Economics of land use, evaluation, and conservation of basic resources. Social and economic problems related to credit, taxation, land ownership, range management, reclamation projects and irrigation developments.

360 (152). Law and the Farmer. (3:3:0) S. Staff

A study of legal problems with which the farmer is most often concerned in the operation of the farming enterprise.

410 (169). Marketing Livestock Products. (3:3:0) W. Nelson

A study of existing marketing channels and methods of handling livestock products including poultry, dairy and meat animals and their products.

425 (192). Farm Appraisal and Finance. (3:3:0) S. Corbridge

Training in farm appraisal for purposes of purchase, finance and taxing. Also an evaluation of the principal sources of farm finance.

490, 491 (280, 281). Seminar. (1:1:0 ea.) A.W. Staff

Advanced Undergraduate or Graduate Courses

530 (New). Intermediate Statistics. (3:2:1) W. Prerequisite: Permission of instructor. Staff

Statistical methods.

531 (New). Advanced Statistics. (3:2:1) S. Prerequisit: Agricultural Economics 530. Staff

Statistical methods.

570 (194). Agricultural Prices. (3:3:0) W. Nelson

Pricing principles, relation of prices of agricultural and non-agricultural products, prices and commodity surpluses, cash and future prices, price forecasting and outlook, analysis of price variations for farm products.

580 (195). Agricultural Policy. (3:3:0) W. Corbridge

The theoretical and institutional setting of the agricultural industry, the objectives of farm policy, and the means of achieving these objectives. Includes a study of existing and proposed farm legislation.

590, 591 (280, 281). Seminar. (1:1:0 ea.) A.W. Staff

595 (296). Individual Readings. (Arr.) Staff

597 (297). Individual Research. (Arr.) Staff

Graduate Courses

699 (300. Thesis for Master's Degree. (Arr.) Staff

Agronomy

Professors: Farnsworth, Martin (emeritus), Stewart.
Associate Professors: Hallam (chairman, 160 B), Allred, Ashton.
Instructor: Reimschiissel.

The Department of Agronomy includes work in crops and soils. Students majoring in the field may be trained in the following areas: (1) practical scientific farming, (2) government civil service, (3) commercial agricultural positions, (4) graduate study toward the M.S. or Ph.D. degree, (5) agricultural teaching when program is planned in that direction.

Students registered or majoring in any of the agricultural departments (except those planning to do graduate work toward a Ph.D. degree) are required to take at least two courses from each of the following areas:

Agricultural Economics 123, 125, 310
Animal Husbandry 101, 161, 170, 207
Horticulture 101, 102, 103

In addition, students returning to the farm should take at least two courses in industrial arts.

All majors in agronomy are required to take one year of chemistry.

The following courses are recommended for all agronomy majors:

Mathematics 101 or 111 and 112 or 135
Chemistry 105, 106, and 107, or 111, 112, and 113
Botany 101 or Zoology 105, and Botany 550
Bacteriology 121
Geology 101

Students majoring in agronomy may direct their training toward either crops or soils. Those desiring crops training are required to take the following:

Agronomy 141, 251, 260, 262, 305, 455, 573.

Those desiring most of their training in soils are required to take the following:

Agronomy 141, 251, 302, 305, 307.

A minimum of 30 hours is required for a major in either case. Hours above those required may be taken from any of the courses listed under the Agronomy Department offering.

Following is a recommended sequence of courses:

Freshman Year

	A	W	S
English 111, 112, 113	3	3	3
Phys. Ed.	1	1	1
Math. 101, 111, or 112	5	5	
Chemistry 105, 106, 107, or 111, 112, 113	5	5	5
Religion	2	2	2
Botany 101			5
Electives	2	2	2
Total hours	18	18	18

Sophomore Year

	A	W	S
Agron. 141, 251	4	4	
Bact. 121			4
Chemistry 221	5		
Religion	2	2	2
Social Science	5		5
English		3	
Geology		5	
Electives	2	4	7
Total hours	18	18	18

Junior Year

	A	W	S
Agron. 451, 455	3		3
Agron. 302, 307		4	3
Religion (Upper Division)	2	2	2
Electives	13	12	10
Total hours	18	18	18

Senior Year

	A	W	S
Agron. 305, 506, 314	5	3	5
Agron. 496	1	1	1
Botany 550		5	
Religion (Upper Division)	2	2	2
Electives	10	7	10
Total hours	18	18	18

1. In planning a program for returning to the farm the student should take as many courses as possible in the following areas depending upon his needs, desires, and the requirements of his minor field:

Animal Husbandry 335, 360, 370, 427.
Botany 451, 470.
Industrial Arts 103, 120, 125, 150, 308, 365, 401, 405, 407.
Agricultural economics, agronomy, and horticulture as listed in catalog.

2. Should a student desire to enter the field of government civil service as an agronomist, soil conservationist, soil scientist, or reclamationist, his general courses will be as listed above with electives from the following:

Animal Husbandry 335, 360, 370, 427.
Agricultural economics, agronomy, and horticulture as listed in catalog.
Botany 123, 470, 550, 560.
Chemistry 220 or 221.
Drawing 102.
Geology 111, 112.
Mathematics 112, 231.

3. For training for commercial positions, a combination of the above courses is suggested.

4. The suggested course of study for agronomy majors who plan to do graduate work for a Ph.D. degree in soils is as follows:

	Hours
Agronomy 141, 251, 301, 302, 305, 307, 314, 496, 503	30-32
Bacteriology 121	4
Botany 101 or Zoology 105	5
Botany 470, 550, 560	15
Chemistry 111, 112, 113, 221, 351, 352, 353, or 461, 462, 463	37-39
Geology 111	5
German 101, 102, 103	15
Mathematics 111, 112, 231, 232, 234	27
Physics 211, 212, 213	15

Lower Division Courses

141 (41). General Soils. (4:2:4) A.S. Martin

An introductory course dealing with the physical, chemical, and microbiological properties of soils.

251 (51). Principles of Field Crop Production. (4:3:2) A.W . Allred

Crop production principles, soil-plant relationships, crop improvement, tillage and crop rotations. May be taken concurrently with Agronomy 260, 261.

260 (60). Cereal Crops. (2:2:0) A. Prerequisite: Agronomy 251. Allred

Classification, history and cultural methods involved in the production of cereal crops.

261 (61). **Root and Special Crops.** (2:2:0) W. Prerequisite. Agronomy 251 Allred

Cultural methods, market types, and commercial possibilities of sugar beets, potatoes, etc.

262 (62). **Forage Crops.** (4:3:2) S. Prerequisite: Agronomy 251. Allred

Alfalfa, clovers, grasses, and other forage; meadow and pasture management; silage and soiling crops.

Upper Division Courses

301 (101). **Soil Physics.** (3:3:2) A. Prerequisites: Agronomy 141, Chemistry 105 or 111, Mathematics 101 or 111. Recommended: Physics 211, 212, 213; Chemistry 112, 113, 220 or 221. Farnsworth

A detailed study of the physical composition of soils—sand, silt, clay, and organic matter, and their effects upon the air, water, and temperature relationships in the soil.

302 (102). **Irrigation and Drainage.** (4:3:2) W. Prerequisites: Agronomy 141, Mathematics 111. Farnsworth

Proper use of irrigation water; irrigation water supply, water measurements; drainage in relation to the irrigation practices; drainage and alkali; drainage systems.

305 (105). **Soil Fertility.** (5:3:4) A. Prerequisites: Agronomy 141, Chemistry 105 or 111. Hallam

A study of the underlying principles of soil fertility, soil alkali, soil chemical analysis or soil testing, commercial fertilizers, farm manures, green manures, crop rotations.

307 (107). **Soil Origin, Classification, Conservation, and Survey.** (3:2:3) S. Prerequisites: Agronomy 141, Geology 101. Farnsworth

The influence of geologic forces and climate environment on soil development; classification of soils based upon soil profile characteristics. Methods of soil conservation and soil survey are emphasized.

314 (114). **Soil Microbiology.** (3:3:0) S. Prerequisite: Bacteriology 121. Hallam

Designed to acquaint the student with bacteria in relation to soil fertility; the activity and types of organisms in the rhizosphere; the biological processes in the soil.

315 (115). **Soil Microbiology Laboratory.** (2:0:4) S. Prequisites: Agronomy 314, Chemistry 221, or equivalent, or consent of instructor. Hallam

Designed to accompany soil microbiology lectures.

451 (151). **Weeds and Weed Control.** (3:3:0) S. Prerequisites: Agronomy 141, 251. Allred

Cultural, chemical, and biological methods of weed control with emphasis on translocated chemicals, soil sterilants and contact chemicals.

453 (153). **Advanced Field Crops and Seed Production.** (3:3:0) W. Prerequisites: Agronomy 141, 251, 260, 262. Allred

Problems involved in crop production, crop judging, and seed certification.

455 (155). **Pasture Management.** (3:3:0) W. Prerequisites: Agronomy 141, and Botany 101. Recommended: Chemistry 105, 106, and 107 or equivalent; Agronomy 262, 305 and Botany 550. Stewart

Analysis of the conditions of pastures in intermountain region; need for improvement; factors involved in improvement; principles and practices of management required to provide maximum production for dairy, beef, sheep, hogs and poultry.

459 (159). **Plant Breeding.** (3:3:0) W. Prerequisites: Botany 101 and Zoology 176. Ashton

Methods of hybridizing and selection in relation to plant improvements.

496 (196). Seminar. (1:1:0) A.W.S. Staff
Current agronomic literature, agricultural problems. Required of all senior students majoring in agronomy.

497 (197). Research and Special Problems. (1-3:1-3:0) A.W.S. Seniors specializing in agronomy elect research work from one to three hours. Staff

498 (198). Agricultural Literature. (1-5:1-5:0) A.W.S. Staff

Advanced Undergraduate or Graduate Courses

503 (103). Soil Chemistry. (3:3:0) W. Prerequisites: Chemistry 221 or consent of instructor. Hallam
A physico-chemical study of soil colloids.

506 (106). Soil and Plant Analysis. (3:0:6) W. Prerequisites: Agronomy 305, Chemistry 220 or 221. Hallam
Laboratory chemical analysis of soils and plant materials; use of radioactive materials in soil fertility research; use, care and measurement of radioactive materials.

573 (173). Range Management. (4:3:2) S. Prerequisites: Botany 101, 560. Staff
Problems associated with the management of range lands, grazing, revegetation, and maintenance of range lands.

Graduate Courses

601 (201). Advanced Soil Physics. (4:3:3) W. Farnsworth

605 (205). Chemistry of Soil-Plant Relationships. (4:4:0) A. Hallam

614 (214). Advanced Soil Microbiology. (3:3:0) S. Prerequisites: Agronomy 305, Bacteriology 121. Hallam

615 (215). Soil Microbiology Laboratory. (2:0:4) S. Prerequisites: Agronomy 614, Chemistry 221 or equivalent. Accompanies microbiology lectures. Hallam

659 (259). Advanced Plant Breeding. (3:2:2) A. Not given this year. Allred

673 (273). Advanced Range Management. (1-4:1-3:1-2) A.W.S. Stewart

694 (294). Seminar. (1:1:0) A.W.S. Staff

695 (295). Special Problems. (Arr.) A.W.S. Staff

697 (297). Research. (Arr.) A.W.S. Staff

698 (299). Agricultural Literature. (Arr.) A.W.S. Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

This course also counts in Agronomy:

Horticulture 458. Weeds and Seed Analysis. (2:0:4)

Air Science

Professor: Col. Allen (chairman, 145 HC).
Assistant Professors: Major Hall, Captain Grindstaff, Captain Nelson.
Instructors: M/Sgt. Hancock, M/Sgt. Ray, T/Sgt. Curtis, T/Sgt. Nielson.

The AFROTC Program. The AFROTC program is a four-year program designed to fit into the regular academic schedule at B.Y.U. The program consists of thirty credit hours of academic work which count toward graduation requirements, one hour of leadership laboratory per week, and attendance at a four-week summer training course between the junior and senior years at a designated Air Force base. Upon successful completion of the program and the university requirements for a baccalaureate degree, the student is qualified to receive a Second Lieutenant's commission in the United States Air Force Reserve.

Leadership Laboratory. The Leadership Laboratory is designed to give the cadet direct experience in the handling of men during his progress through the program. He learns leadership techniques and increases his self-confidence. He is promoted through the lower airmen grades in his basic years as his leadership ability is demonstrated. During his sophomore year his eligibility for enrollment in the advanced program is determined. During his junior year, the cadet holds non-commissioned officer grades, and after completing the summer training course he is promoted to a cadet commissioned officer in his senior year and given responsibilities in the leadership training of other cadets. The Leadership Laboratory is planned and operated by the advanced cadets under minimum supervision of a faculty adviser. The cadet is required to wear his uniform during the day he attends Leadership Laboratory.

Summer Training. The four-week summer training course is a supplement to the academic program and is designed to promote increased enthusiasm and interest in the Air Force with emphasis on flying for those physically qualified. It also develops in the cadet a better understanding of the mission of the USAF and the operations of an Air Force base and increases his proficiency in essential areas of junior officer training.

General Information. Approximately eighty percent of the Second Lieutenants in the United States Air Force are graduates of the AFROTC program. There are no marriage restrictions for AFROTC men either while at B.Y.U. or while on active duty. A married Second Lieutenant on flying status receives $455.68 per month. AFROTC training does not make a specialist out of the student, but it does train him as a junior executive. During the program he will have applied his military knowledge to practical situations by staff studies, oral presentations, student instruction, and group discussions. He will have learned sound leadership techniques to prepare him to serve as a commissioned officer in the United States Air Force as well as a leader in civic and community affairs.

Enrollment. A student may enroll in the AFROTC program at only one time: during his first quarter at B.Y.U. He may leave the program at any time he desires. Transfer students from institutions where an ROTC program was offered are not eligible unless they were enrolled in ROTC at their first institution. Students transferring from institutions where ROTC was not offered are eligible only if they have four years of academic requirements to complete for graduation. See paragraph entitled **Veterans** for the only exceptions to the above. A graduate student is ineligible for AFROTC. The program must be completed concurrent with or before graduation. If it is completed before graduation, the student must graduate within one year, during which time he will continue to be deferred from the draft.

Eligibility. The beginning student must be a citizen of the United States between the ages of 14 and 23. He must meet certain physical standards prescribed by the Air Force and be enrolled as a regular day student at B.Y.U. Unless he is a veteran he must have twelve quarters of academic study to complete for graduation requirements. To be accepted in the advanced program, the cadet must have completed his basic courses with at least a "C" average. In addition he must pass a written examination for Air Force officer qualification, pass a thorough physical examination, and be selected by a board of officers appointed by the Professor of Air Science and approved by the President of the University. The applicant for the advanced program must also execute a written contract with the Government under which he agrees to complete the advanced course, attend the prescribed summer training, and serve his tour of active duty with the Air Force upon completion of the AFROTC program.

The Draft. All able-bodied men in the nation are presently required to fulfill a six- or an eight-year military obligation if called into the service. This requirement, established by the 84th Congress as Public Law 305, must be accomplished through a combination of active and reserve duty depending upon the selection made by the individual concerned. Enrollment in AFROTC is not credited toward this military obligation. Cadets who are properly enrolled in the AFROTC program may be deferred from the draft after they satisfactorily complete one quarter of Air Science, continue in the program, and are within the yearly quota alloted to the University.

Veterans. A veteran enrolling at this institution with prior college credit who seeks a commission through the AFROTC program may have that part of the basic program waived (maximum both freshman and sophomore years) which corresponds with the academic credit on his record. A veteran must have at least six quarters of academic requirements to complete for graduation to be eligible for AFROTC. He must enroll during his first quarter at B.Y.U. or make arrangements with the Department of Air Science for an appropriate delay to place him in phase. He may not attend school for one year or even one quarter and then decide to enter the program. A veteran without prior college credit must register for the basic course and follow through the entire program.

Nine hours of military science credit, one hour of health and three hours of physical education are allowed veterans enrolling at B.Y.U.

Extracurricular Activities. AFROTC cadets normally extend their academic and laboratory associations into extracurricular activities. These include the Saber Air Command for basic cadets, the Arnold Air Society for advanced cadets, the Drill Team, the AFROTC Chorus, the AFROTC Band, the Rifle Team for all cadets, and the annual Military Ball. Cadet associations and friendships formed during the program have many carry-over values after college.

Orientation Flights. A comprehensive program of orientation flights in United States Air Force aircraft is carried on during each school year. Each cadet has the opportunity of visiting Air Force bases and aircraft assembly plants. These flights, as well as those carried on in jet aircraft at summer training, are conducted by experienced Air Force pilots at no charge to the cadet. On overnight cross-country flights, cadets pay for their own meals and are charged a minimum housing fee when billeted at government installations. Cadets are also responsible for their own expenses when unpredictable delays occur and when housing is not available. Cadets are covered by a $5,000 accident insurance policy during these flights. If under twenty-one years of age, cadets must have the written permission of their parent or guardian to participate in such flights.

Discipline. AFROTC students, as cadets, are civilians and are not subject to the Uniform Code of Military Justice. Disciplinary training in the Cadet Corps is formulated and administered by the cadets themselves. Cadets are subject to the rules and regulations of the Department of Air Science as well as those of the institution. Violation of these rules may mean discharge from the AFROTC program, but does not mean that students must leave college. It will, however, result in the cancellation of their draft deferment. Disciplinary matters are handled by the Dean of Students.

Period of Non-Attendance. Students enrolling in AFROTC who enter college on a five-year program are given a year of non-attendance between their basic and advanced courses. During this period cadets remain deferred from the draft. They must, however, attend Leadership Laboratory.

L.D.S. Missions. Students called on L.D.S. missions will be released from the AFROTC program and upon their return will be accepted back into the program if they meet all the conditions in force at the time of their return.

Uniform and Allowances. All items of uniform and all academic texts for the four-year program are issued to the cadet at no charge. A fine library of military books and supplemental references for his academic studies is available for his free use. If selected for the advanced course, he receives an officer's uniform which he retains as his personal property upon successful completion of the program. During his advanced two years the cadet receives from the government subsistance at the rate of 90c per day while he is in school. This amounts to approximately $80 per quarter or $525 in cash payments for the two years. The cadet also receives medical care, food, and clothing while at summer training and is paid $75 and reimbursement for transportation to and from training at the rate of five cents per mile.

Course Fee Deposit. A $14.00 deposit is required of each student at the beginning of each school year. The purpose of this fee is to protect the United States Government and the University from loss of textbooks and articles of uniform. A $1.50 course fee per quarter is withheld from this deposit. At the end of each school year $9.50 is returned to the student, providing there has not been a loss of uniform or books.

Lower Division Courses

Basic Course: Air Age Citizenship Education.

110, 111, 112 (10, 11, 12). The Airplane and the Air Age. (2:2:1 ea.) A.W.S. Staff

Freshman year. Introduction to AFROTC, introduction to aviation, fundamentals of global geography, international tensions and security organizations, military instruments of national security.

220, 221, 222 (20, 21, 22). Elements and Potentials of Air Power. (2:2:1 ea.) A.W.S. Staff

Sophomore year. Careers in the USAF, moral and spiritual foundations of leadership, introduction to aerial warfare, targets, weapons, aircraft, bases and operations.

Upper Division Courses

Advanced Course: Air Force Officer Development.

301, 302, 303 (101, 102, 103) The Air Force Officer in the Air Age. (3:4:1 ea.) A.W.S. Staff

Junior year. Introduction to advanced AFROTC, creative problem solving, instructing in the AF, the AF commander and his staff, communicating in the AF, the military justice system, air navigation and weather, AF base functions, preparation for summer training.

412, 413, 414 (112, 113, 114). Leadership and Air Power Concepts. (3:4:1 ea.) A.W.S. Staff

Senior year. Principles of leadership and management, military aspects of world political geography, military career guidance, military aviation and the evolution of warfare, briefing for commissioned service.

Animal Husbandry

Professors: Morris (chairman, 150 B), Cannon.
Associate Professor: Richards.
Assistant Professor: Shumway.
Instructor: Mikkelsen.

The Department of Animal Husbandry offers courses for students majoring in this field, training for the following activities: (1) practical livestock farming and operation, (2) livestock and herd managers, (3) commercial and government agricultural positions, (4) pre-veterinary preparation, (5) advanced study toward the M.S. or Ph.D. degrees, (6) agricultural teaching when program is planned in that direction.

A student majoring in animal husbandry may choose his field of study from either animal husbandry proper (cattle, sheep, swine and horses), dairy husbandry, poultry husbandry, or a combination of these. A minimum of 36 hours is required for a major.

Animal husbandry majors are encouraged to take more than the required number of hours needed for graduation in both the physical and biological sciences.

Animal husbandry students are required to take two courses from each of the following areas:

Agricultural Economics 123, 125, 310
Agronomy 141, 251
Horticulture 101, 102, 103, 310
Industrial Arts: Any two courses.

Any animal husbandry major who desires most of his training in the study of meat animals should take the following courses in animal husbandry: 120, 207, 208, 215, 311, 312, 591, 592, 593.

If a student desires most of his training in dairy production, he should select from the following courses: 161, 166, 207, 208, 215, 311, 312, 313, 361, 362, 365, 591, 592, 593. In addition one or more courses in bacteriology should be taken.

If a student desires training in poultry husbandry, he should select from the following courses: 170, 171, 207, 215, 370, 371, 373, 477, 591, 592, 593. He should also take Zoology 263.

Students planning to return to the farm or do service work should fill elective courses from the following areas, depending on specific likes and desires:

Agricultural Economics 101, 320, 360, 410, 425
Agronomy 260, 262, 451, 455, 573
Bacteriology 121
Botany 101, 355, 455, 466, 550, 560
Horticulture 101, 102, 103, 310
Industrial Arts 103, 120, 125, 150, 205, 207, 308, 365, 401
Journalism 211, 571
Mathematics 101 and 135 or 111 and 112
Speech 101 or 102, 121
Zoology 105, 176, 263

Students planning to do graduate work should elect from the following courses:

Bacteriology 121, 301, 501

Botany 101, 355
Chemistry 105, 106, 107, or 111, 112, 113; 220, 221, 284, 351, 352, 353, 581, 582, 583
German 101, 102, 103
Mathematics 111, 112, 231
Zoology 105, 164, 176, 263, 365, 370, 373, 376, 417

The schedule shown below is a suggested outline for animal husbandry majors:

Freshman Year

	A	W	S
An. Hus. 120, 207, 215	5	5	5
Zoology 105	5		
English 111, 112, 113	3	3	3
Religion	2	2	2
Phys. Educ.	1	1	1
Hort. 101 or 103		3	
Health 130			1
Agronomy 141 or 251			4
Electives or AFROTC	2	4	2
Total Hours	18	18	18

Sophomore Year

	A	W	S
An. Hus. 161 or 171	4		
An. Hus. 208			4
Agronomy 141 or 251		4	
Ag. Econ. 123, 125, 310	3	3	
Chem. 105, 106, 107 or 111, 112, 113	5	5	5
Hort. 102 or 310		3	3
Religion	2	2	2
Electives or AFROTC	4	1-2	5-6
Total Hours	18	18	18

Lower Division Courses

101 (1). General Animal Husbandry. (5:5:0) A.W.S. Cannon
A general course in animal husbandry for non-animal husbandry majors.

120 (5). Livestock Judging and Selection. (3:2:4) S. Staff
A study of animal types and their relation to the functions of animals.

161 (21). Elements of Dairying. (4:3:3) A. Richards
General principles of breeding, feeding and management of dairy cattle.

162 (22). Cow Testing. (2:0:4) A. (Given even years.) Richards
Instruction and practice in record keeping and butterfat testing.

166 (6). Dairy Judging and Selection. (3:2:4) S. Staff
A critical study of dairy types and productive functioning.

170 (90) General Poultry. (4:3:2) A.W.S. Morris
A general course in poultry husbandry with the problems of feeding, housing, and management.

171 (91). Poultry Practices. (1-2:0:7) A.W.S. Prerequisite: Animal Husbandry 170. Morris
Project and laboratory experience in raising broilers and young stock.

207 (7). Feeds and Feeding. (5:5:0) A.W.S. Shumway
Principles of nutrition and their application to all types of farm animals.

208 (32). Fitting and Showing Livestock. (4:2:6) S. Richards
Each student will be assigned an animal to fit and show at one of the spring shows and the campus livestock show.

215 (15). Fundamentals of Animal Breeding. (5:5:0) A.W. Richards
A study of the principles involved in breeding farm animals, including physiology of reproduction, heredity and variation, selection and systems of breeding.

Upper Division Courses

311 (111). Animal Physiology and Anatomy. (5:5:0) A. Prerequisite: Zoology 105. Nicholes
Physiology and anatomy of farm animals.

312 (112). Animal Diseases. (5:5:0) W. Prerequisite: Animal Husbandry 311. Nicholes

A study of the causes, prevention, and practical treatment of common diseases of farm animals.

313 (113). Animal Disease Laboratory. (4:3:3) S. Prerequisites: Animal Husbandry 311, 312. Nicholes

Diagnosis, treatments, and laboratory and field experience in animal hygiene.

320 (105). Advanced Judging. (3:0:6) A. Prerequisite: Animal Husbandry 120. Shumway

Advanced work in livestock judging. The judging team will be picked from this class.

325 (160). Meats and Meat Preparation. (3:1:4) W. Nicholes

Care of the meat from slaughter to packaging; inspection of slaughtering and meat plants; processing.

330 (150). Horse Husbandry. (3:2:3) A. Nicholes

A brief study of breeds of horses, with emphasis on feeding, training, and management.

335 (154). Beef Production. (4:3:3) S. Prerequisites: Animal Husbandry 207, 215. Shumway

The problems of breeding, feeding and management of range cattle, feeder cattle, and purebreds.

336 (184). Animal Husbandry Practices. (Arr.) A.W.S. Staff

340 (155). Sheep Production. (3:2:3) S. Prerequisites: Animal Husbandry 207, 215. Shumway

Feeding, care, and management of farm and range sheep.

345 (156). Swine Production. (3:2:3) W. Prerequisites: Animal Husbandry 207, 215. Shumway

Breeding, feeding, and management of swine on western farms.

360 (171). Dairy Production. (4:3:3) W. Richards

Advanced work in feeding, breeding, and milk secretion.

362 (116). Pedigree and Herd Book Study. (2:2:0) W. Prerequisite: Animal Husbandry 215. Richards

Interpretation of pedigrees and research in herd books of the major breeds of livestock.

363 (165). Artificial Insemination. (3:2:3) S. Prerequisite: Animal Husbandry 215. Richards

Methods and techniques of artificial breeding will be studied, accompanied by laboratory work.

365 (110). Milk and Milk Processing. (5:3:4) W. Shumway

Modern methods of producing, grading, and processing dairy products.

370 (190). Poultry Management. (3:2:2) W. Prerequisite: Animal Husbandry 170. Morris

The management and business phases of poultry production. Problems involved in managing laying flocks, broilers and replacement pullets.

371 (189). Advanced Poultry Practices. (1-3:0:3-9) A.W.S. Prerequisite: Animal Husbandry 170. Morris

Caring for and managing laying hens; care of eggs.

372 (196). Incubation and Brooding. (3:2:2) S. (Given odd years.) Prerequisite: Animal Husbandry 170. Morris

The principles and problems of incubation and brooding chicks and poults.

373 (New). Poultry Diseases. (3:3:0) W. Nicholes
A general treatise of poultry diseases, their control and treatment.

378 (191). Turkey Management. (3:2:2) S. Morris
The principles, practices, and problems of turkey production, including brooding, feeding, growing, and marketing.

415 (115). Advanced Animal Breeding. (3:3:0) S. Prerequisite: Animal Husbandry 215. Richards
Present day concepts of genetics and its application to livestock breeding.

427 (107). Advanced Feeding. (4:3:3) W. Prerequisite: Animal Husbandry 207. Shumway
Newest knowledge of nutrition and its application to livestock.

477 (194). Poultry Feeding. (3:2:2) A. Prerequisite: Animal Husbandry 170. Morris
The principles of nutrition as they apply to all types of poultry.

Advanced Undergraduate or Graduate Courses

501 (260). Experimental Methods in Livestock Work. (3:0:9) A.W.S. Staff

502 (182). Animal Husbandry Research and Problems. (1-5:0:3-15) A.W.S. Staff
Students will be expected to outline and complete a research problem in some phase of animal husbandry.

519 (230). Animal Disease Research. (1-5:0:3-15) A.W.S. Staff

520 (201). Special Problems in Animal Breeding. (1-5:0:3-15) A.W.S. Staff

527 (207). Animal Nutrition. (3:3:0) A.W.S. Staff

560 (211). Special Problems in Animal Nutrition. (1-5:0:3-15) A.W.S. Staff

564 (271). Secretion of Milk. (3:3:0) S. Staff

570 (199). Poultry Research and Problems. (1-5:0:3-15) A.W.S. Staff

571 (198). Poultry Seminar. (1:0:3) A.W.S. Staff

591 (176). Animal Husbandry Survey. (1:1:0) A. Staff
Special lectures by livestock specialists with emphasis on employment opportunities.

592 (174). Current Problems in Animal Husbandry. (2:2:0) W. Staff
A brief review of current experimental work with livestock.

593 (175). Animal Husbandry Seminar. (1:1:0) S. Staff

Graduate Course

691 (220). Problems in Dairy Research. (1-5:0:3-15) A.W.S. Staff

Archaeology

Associate Professor: Jakeman (chairman, 203 ESC).
Assistant Professor: R. T. Christensen.

A major in archaeology requires the completion of 40 hours of work in this department, including courses 150, 221, 241, 276, 310, 327, 360, 431, 451, 471, and 594. A major in this field will prepare the student for postgraduate specialization in either (1) Old World archaeology and ancient history or (2) American archaeology and anthropology, leading to teaching and/or research and writing in these areas. For fullest preparation, a minor in history is recommended (including History 110, and either 388, 500, 504, 507, 508 and 555 for specialization in Old World archaeology and ancient history or 150, 388, 553, 555, and 564 for specialization in American archaeology and anthropology); also recommended are a minor in French or German (for specialization in Old World archaeology and ancient history) or Spanish (for specialization in American archaeology and anthropology) and the following courses in other departments: Geology 103, Geography 111 and 303, Sociology 111 and 460, Speech 101, English 215 and 216, Art 101, 259 and 303, and Physics 177.

A minor in archaeology requires the completion of 20 hours in this field including courses 150, 221, 310 and 360.

Credit in religion as well as humanities may be obtained for courses 310 and 360. (See Archaeology in the Division of Religion.)

In this department, courses not offered this year will be given the following year.

Lower Division Courses

150 (1). Introduction to Archaeology. (4:4:0) A.W.S. (G-HA) Staff
The aims, fields, and major discoveries of archaeology, the science which reconstructs the early history of man from the evidence of his actual material remains.

221 (21). Peoples and Culture. (4:4:0) W. (G-HA) Recommended: Archaeology 150 or History 110. Christensen
An introduction to ethnology (study of peoples) and cultural anthropology (study of human culture), emphasizing the characteristics of primitive and ancient peoples and cultures.

241 (50). Races of Man. (2:2:0) S. Prerequisite or concurrently: Archaeology 221. Jakeman
A further course in ethnology and an introduction to physical anthropology, in which the ancient and living peoples of the world will be classified as to physical type.

276 (76). Indians of the Americas. (3:3:0) A.W. Prerequisite: Archaeology 221; recommended: Archaeology 241. Christensen
A course in American ethnology. The aim is to give the student a picture of the American Indians at the time of the coming of the Europeans.

Upper Division Courses

310 (110). General Near Eastern and Biblical Archaeology. (3:3:0) A.W.S. (†G-HA; †G-R) Prerequisite: Archaeology 150 or History 110 or consent of the instructor. Jakeman, Christensen
A survey of the discoveries of archaeology in Mesopotamia, Egypt, Palestine, and other Near Eastern-Biblical lands, with special attention to those bearing upon the important historical claims of the Bible.

327 (127). **General Prehistoric Archaeology of the Old World.** (3:2:2) (Not given this year.) Prerequisites: Archaeology 150 and 221; recommended: Archaeology 241 and Sociology 460. Christensen

A survey of the findings of archaeology relating to the early history of man in the Old World with an introduction to primitive and ancient technology.

360 (130). **Ancient Civilizations of America.** (3:3:0) A.W.S. (†G-HA; †G-R) Prerequisite: Archaeology 150 or consent of instructor. Jakeman

A survey of the discovered archaeological history of the New World, followed by a study of the important problems of the origin of its ancient civilizations.

388 (133). **Early Peoples of Middle America.** (3:2:2) A. Prerequisite: Archaeology 360; recommended: Archaeology 241 and 276. Jakeman

A study in the ethnology and ancient history of Mexico and Central America, especially as to the early peoples and history of the central Mesoamerican area, according to the native Indian and Spanish chronicles.

431 (151). **Methods of Archaeological Research.** (2:2:0) S. Christensen

The main steps in archaeological research, with special attention to methods of discovery and excavation of ancient sites and composition of the field report.

451 (161). **Field Archaeology.** (4:0-2:4-8) (Not given this year.) Prerequisite: Archaeology 431. Christensen

Student participation in the actual excavation of a prehistoric Indian mound of Utah Valley and the processing, classification, and recording of the excavated material.

471 (171). **Interpretative Archaeology.** (3:3:0) (Not given this year.) Prerequisites: Archaeology 327, 431, and 451; recommended: Sociology 460 and English 215 and 216. Christensen

Interpretation of empiric archaeological data as to culture meaning, methods of chronological and historical interpretation and practice in archaeological ethnography and historiography.

Advanced Undergraduate or Graduate Courses

518 (118). **General Classical and Christian Archaeology.** (3:2:2) S. (†G-HA) Prerequisite: History 110; recommended: History 504 and 508 and Church History 514. Jakeman

A survey of the excavations and antiquities illustrating the development of classical Greek and Roman architecture and art.

555 (135). **Archaeology of Middle America.** (3:2:2) W. Prerequisite: Archaeology 388. Jakeman

The progress and latest results of archaeological research in Mexico and Central America, especially as to the characteristics and history of the ancient civilizations of the central Mesoamerican area.

565 (140). **Archaeology of South America.** (3:2:2) (Not given this year.) Prerequisites: Archaeology 150 and 276; recommended: Archaeology 241 and 360. Christensen

The progress and latest results of archaeological research in the ancient civilizations and traditionary history of the Andean region.

575 (145). **Archaeology of North America.** (3:2:2) S. Prerequisite: Archaeology 276; recommended: Archaeology 241 and 360. Christensen

The progress and latest results of archaeological research in North America north of central Mexico, especially as to the prehistoric agricultural peoples of the Southwest and eastern United States.

590 (New). **Museum and Field Studies.** (3-9:0:6-18) Staff

Guided studies at important museums and archaeological sites of the United States or Latin America and a report on those studies.

594 (184). Seminar. (2:2:0) (Not given this year.) Jakeman
Problems and methods of general comparative archaeology.

596, 597, 598 (191, 192, 193). Readings in Archaeology. (2:4:0 ea.) A.W.S. Staff
Guided readings and a paper in one to three of the following fields of archaeology: early prehistoric, Mesopotamian and biblical, Egyptian and biblical, Syro-Palestinian and biblical, Aegean or Homeric, classical, later prehistoric or northern Europe, Christian, later prehistoric and historic of eastern Asia, Polynesian, Mesoamerican, Andean, Southwest, later prehistoric of eastern United States, general comparative.

Graduate Courses

601 (201). History and Theory of Archaeology. (2:2:0) A. Christensen

621 (221). Archaeological Surveying. (2:1:2) A. Christensen

631 (231). Ceramic Typology. (1:1:0) W. Jakeman

650 (250). Studies in Comparative Stratigraphy: Near East. (2:2:0) A.W.S. Staff

660 (260). Studies in Comparative Stratigraphy: Mesoamerica. (2:2:0) A.W.S. Staff

671, 672 (271, 272). Maya Hieroglyphics. (2:2:0 ea.) (Not given this year.) Jakeman

691 (294). Library Research. (2:2:0) A.W.S. Staff

694 (297). Field or Museum Research. (3:0:6) Staff
Guided field or museum research in the Southwest.

695 (297). Field or Museum Research. (5:0:10) Staff
Guided field or museum research in Mexico or Central America.

696 (297). Field or Museum Research. (8:0:16) Staff
Guided field or museum research in the Near East (Palestine, Egypt, or Mesopotamia).

699 (300). Thesis for Master's Degree. (Arr.) Staff

Archaeology

(See also courses in Religion.)

Art

Professors: de Jong, E. M. Jenson, B. F. Larsen (emeritus).
Associate Professors: Mathews (chairman, 296 E), Andrus, Gunn.
Assistant Professors: Turner, W. B. Wilson.
Instructors: Johansen, Knell, L. Taylor.

Students who elect their major in art are required to complete twelve hours in Art 111, 121, and 122 or their equivalents before taking upper division work. In addition, a major in art must include 9 hours in art history and 24 hours in one of the seven areas of concentration.

The curriculum for art majors who are concentrating on commercial art and those who are preparing to teach art in the secondary schools may lead either to a Bachelor of Arts or a Bachelor of Science degree. Majors who are concentrating on crafts, graphics, interior design, painting or sculpture will work toward a Bachelor of Arts degree.

Students intending to teach art on the secondary level must plan early to take the following sequence of courses: Educational Research and Services 305 and Art Education 377, 478, and 479. After student teaching, Educational Administration 310, Educational Values and Programs 415, and Education: Instruction 550 must be scheduled. This may be done on the block plan.

The courses in art are presented under the following divisions:

Commercial Art: 239, 240, 340, 341, 342, 343, 447, 448, 544, 545, 546.
Crafts: 259, 263, 359, 360, 361, 362, 366, 567.
Design and Advanced Design: 110, 111, 310, 311.
Drawing and Advanced Drawing: 121, 122, 321, 322.
Graphics: 250, 350, 351, 352.
History and Appreciation: 101, 303, 304, 305, 406, 407, 408, 501.
Interior Design: 313, 314, 415, 416, 417.
Painting: 227, 233, 327, 328, 329, 333, 334, 335, 474, 475, 476, 580, 581. 582, 586, 587, 588.
Sculpturing: 256, 356, 357, 358.

Areas of Concentration

Commercial Art

	Hours
Commercial Art	8
Design	2
Drawing	2
Graphics	2
Painting	7
Photography	3
Marketing	5
Total Hours	29

Crafts

	Hours
Crafts	8
Design	2
Drawing	2
Graphics	2
Interior Design	2
Painting	4
Sculpture	2
Elective	2
Total Hours	24

Graphics

Graphics	8
Crafts	2
Design	2
Drawing	2
Interior Design	2
Painting	4
Sculpture	2
Elective	2
Total Hours	24

Interior Design

Interior Design	9
Crafts	2
Drawing	2
Graphics	2

	Hours
Painting	7
Sculpture	2
Total Hours	24

Painting

Painting	8
Crafts	2
Design	2
Drawing	4
Graphics	2
Interior Design	2
Sculpture	2
Elective	2
Total Hours	24

Sculpture

	Hours
Sculpture	8
Crafts	2
Design	2
Drawing	2
Graphics	2
Interior Design	2
Painting	4
Elective	2
Total Hours	24

Teaching Art

Crafts	8
Advanced Design	2
Commercial Art	4
Graphics	2
Interior Design	2
Painting	4
Sculpture	2
Total Hours	24

The minimum requirements for a teaching minor in art for secondary schools should include:

Drawing (lower division)	4
Design (lower division)	4
History of Art	3
Crafts	4
Commercial Art	2
Painting	4
Sculpture	2
Interior Design	2
Graphics	2
Total Hours	27

Lower Division Courses

101 (1). Introduction to Art. (2:2:0) A.W.S. (G-HA) Turner
Recommended for everyone who desires a better understanding of and a greater appreciation for painting, sculpture, architecture, and other graphic and plastic arts. Not for art majors.

110 (10). Theory and Practice of Design. (2:2:2) A.W.S. (G-HA) Gunn, Staff
Study of the fundamental principles of art affecting the use of form, color, and texture in structural design and decoration. Not for art majors.

111 (11). Basic Design. (4:4:4) A.W.S. Staff
Application of the principles of design in use of plastic and graphic materials.

121 (21). Elementary Drawing. (4:4:4) A.W.S. (G-HA) Staff
Drawing with various media. Emphasis on development of perceptive skill, experience in organization, and representation of the elements of visual communication.

122 (22). Elementary Figure Drawing. (4:4:4) A.W.S. (G-HA) Andrus, Gunn
Drawing from the model. Study of and experience with the elements of graphic expression. Form is emphasized.

227 (27). Oil Painting. (2:2:4) A.W.S. (G-HA) Turner
Introduction to the use of oil colors as a medium of expression.

233 (33). Water Color Painting. (2:2:2) A.W.S. (G-HA) Turner
Survey and application of the various techniques of water color painting.

239 (39). Pen Lettering. (2:0:2) A.W.S. Jenson
Study of basic pen alphabets.

240 (40). Brush Lettering. (2:2:2) A.W. Gunn
Study of brush manipulation and letter structure for display advertising.

250 (50). Print Making. (2:2:4) A.W.S. Andrus
Introduction to woodcut, engraving, etching, lithography, and silk screen.

256 (56). **Sculpture.** (2:2:4) A.W.S. Turner
Modeling and casting.

259 (59). **Ceramics.** (2:2:4) A.W.S. (G-HA) Wilson
Ceramics and pottery with clay as the basic medium.

263 (63). **Crafts.** (2:2:4) A.W.S. (G-HA) Staff
Leather, wood, plastics, and other media used as a basis for creative design.

Upper Division Courses

303 (103). **Ancient and Primitive Art.** (2:2:0) A.(G-HA) Mathews
Introduction to the history of art from prehistoric time to the early Christian era. Primitive art forms will also be studied.

304 (104). **Medieval Art.** (2:2:0) W.(G-HA) Mathews
Study of architecture, painting, and sculpture from the dissolution of the Roman empire to the Renaissance.

305 (105). **Renaissance Art.** (2:2:0) S. (G-HA) Mathews
Study of the history of art through the Renaissance and to the close of the eighteenth century.

310 (110). **Advanced Design.** (3:2:0) A. Larsen
A study of art structure as a means for expression of ideas and emotions.

311 (111). **Mural Design.** (2:2:4) W. Andrus
Principles of design applied to mural decoration.

313 (113). **Home Planning.** (2:2:0) A.W. Knell
Application of principles of design to home planning.

314 (114). **Interior Design.** (2:2:0) W.S. Staff
Decorative and functional features of the interior of the home.

321 (121). **Interpretative Drawing.** (2:2:2) A. Andrus
Advanced work in drawing with emphasis on development of individuality of expression.

322 (122). **Figure Drawing.** (2:2:2) W.S. Andrus
Drawing from the model with emphasis on structure and expressive elements.

327, 328, 329 (127, 128, 129). **Oil Painting.** (2:2:4 ea.) A.W.S. Turner
Outdoor, still life, and landscape painting is emphasized in the autumn, winter and spring terms respectively.

333, 334, 335 (133, 134, 135). **Water Color Painting.** (2:2:2 ea.) A.W.S. Turner
Landscape, still life, and figure composition are emphasized in the autumn and winter. Outdoor sketching is presented in the spring.

340 (140). **Lettering.** (2:2:2) A.W. Gunn
Skills and letter structure for lettering reproduced for the printed page.

341 (141). **Layout.** (2:2:2) S. Prerequisite: Art 140. Gunn
Design principles as they pertain to the organization of elements on the printed page.

342 (142). **Illustration.** (2:2:2) W. Gunn
Black and white illustration in brush and ink, watercolor, scratchboard, and related techniques for line and half-tone reproduction.

343 (143). **Fashion Illustration.** (2:2:2) S. Gunn
Fashion drawing in various media.

350 (150). Engraving and Woodcut. (2:2:4) A. Andrus
Work in relief print making.

351 (151). Etching and Lithography. (2:2:4) W. Andrus
Work on copper and zinc employing aquatint, intaglio and soft ground as well as use of lithographic stone.

352 (152). Silk Screen. (2:2:4) S. Andrus
Preparation of various types of stencils for print making and commercial work.

356, 357, 358 (156, 157, 158). Sculpture. (2:2:4 ea.) A.W.S. Turner
Use of clay as an expressive medium, modeling the full figure, and plaster casting, stone and bronze.

359, 360, 361 (159, 160, 161). Ceramics. (2:2:2: ea.) A.W.S. Wilson
Work in all phases of ceramics, designing through firing.

362 (162). Textile Design. (2:2:2) A.W.S. Staff
Silk screen, block printing, stenciling, painting and dying as media for textile design.

366 (166). Metalwork and Jewelry. (2:2:2) W. Staff
Copper, silver, wood, enameling in creative design.

406 (106). Art History and Appreciation. (3:3:0) A.W.S. (G-HA) Mathews
Interpretation and classification of masterpieces of architecture, sculpture, graphic arts, ornament, and painting to the end of the eighteenth century.

407 (107). Contemporary Art. (3:3:0) W. (G-HA) Larsen
The rise and progress of contemporary art in Europe and America.

408 (108). American Art. (3:3:0) S. (G-HA) Larsen
History and evaluation of painting, sculpture, architecture, and industrial arts in America.

415, 416, 417 (115, 116, 117). Interior Design. (3:3:0 ea.) A.W.S. Taylor
History of interior design. Study of period furnishings. Practical study of manufacture, design, installation, and care of media and materials used in interior design.

447 (147). Portrait Photography. (3:2:3) W. Nelson
General portrait studio procedures, including retouching, portrait darkroom techniques. Emphasis on the plastic quality of light on the human face and figure.

448 (147). Pictorial Photography. (3:2:3) S. Nelson
Study of art structure in its application to photography. Practical experience in photographing the landscape, still-life and human figure.

474, 475, 476 (174, 175, 176). Portrait and Figure Painting. (2:0:4 ea.) A.W.S. Andrus
Painting the clothed figure with special emphasis on design, study of character, three-dimensional form in space, and expressive devices.

Advanced Undergraduate or Graduate Courses

501 (101). Aesthetics. (3:3:0) W. (G-HA) de Jong
Theoretical and practical criteria of aesthetic values.

544, 545, 546 (New). Advanced Commercial Art. (2:2:4 ea.) A.W.S. Gunn
Professional standards in advanced lettering, illustration and layout are emphasized. In the third quarter, commercial art experience is correlated with a practicing agency for students judged proficient by a faculty committee.

567 (167). **Wood Carving.** (2:2:2) S. Staff
Bas-relief and carving in the round with emphasis on design.

580, 581, 582 (180, 181, 182). **Mural Painting.** (2:2:4 ea.) A.W.S. Andrus
Historical backgrounds, mural design, mural painting.

586, 587, 588 (186, 187, 188). **Studio Art.** (1-4:1-4:2-8 ea.) Staff

ART EDUCATION

377 (120). **Basic Classroom Procedures.** (4:4:3) A. Prerequisite: E.R.S. 305. Gunn
For course description and fees see Education: Instruction 377.

478 (138). **Unit Planning and Teaching.** (4:3:5) A.W.S. Prerequisite: Art 377.
For course description and fees see Education: Instruction 478. Gunn

479 (139). **Secondary Student Teaching.** (7:1:20) A.W.S. Prerequisite: Art 478.
For course description and fees see Education: Instruction 479. Gunn

Graduate Courses

602 (202). **Composition.** (Arr.) W. Turner

611 (211). **Contemporary Mural Design.** (Arr.) W. Andrus

615 (215). **Period Furnishing.** (3:3:0) A. Taylor

616 (216). **Decorative Material for Interior Design.** (3:3:0) W. Taylor

617 (217). **Practical Problems in Interior Design.** (3:3:0) S. Taylor

621, 622, 623 (221, 222, 223). **Advanced Drawing and Painting.** (Arr.) A.W.S. Andrus

624, 626 (224, 226). **Landscape Painting.** (Arr.) A.S. Turner

625 (225). **Still-Life Painting.** (Arr.) W. Turner

627, 628, 629 (227, 228, 229). **Pictorial Composition.** (Arr.) A.W.S. Turner

633, 634, 635 (233, 234, 235). **Advanced Water Color Painting.** (Arr.) A.W.S. Turner

639 (239). **Lettering and Layout for Reproduction.** (Arr.) A.W.S. Gunn

642 (242). **Various Media in Illustration.** (Arr.) W. Gunn

650 (250). **Experimental Relief Printing.** (Arr.) A. Andrus

651 (251). **Color Lithography and Etching.** (Arr.) W. Andrus

652 (252). **Seriography.** (Arr.) S. Andrus

656, 657, 658 (256, 257, 258). **Advanced Sculpture.** (Arr.) A.W.S. Turner

665 (265). **Ceramics.** (Arr.) A.W.S. Wilson

666 (266). **Metal Work and Jewelry.** (Arr.) W. Staff

667 (267). **Wood Sculpture.** (Arr.) S. Staff

671 (271). **Survey of Recent Studies in Art Education.** (3:3:0) A. Gunn

674, 675, 676 (274, 275, 276). **Portrait and Figure Design and Painting.** (Arr.) A.W.S. Andrus

680, 681, 682 (280, 281, 282). **Design and Painting Mural Types.** (Arr.) A.W.S. Andrus

683, 684, 685 (283, 284, 285). Studio Art. (Arr.) A.W.S. Staff

686, 687, 688 (286, 287, 288). Studio Art. (Arr.) A.WS. Staff

690, 691, 692 (290, 291, 292). Color. (2:2:4 ea.) A.W.S. Andrus

695 (299). Seminar. (1:1:0) A.W.S. Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

These courses also count in Art:

Education: Instruction 226. Art for Elementary Teachers. (3:3:0)
Education: Instruction 668. Teaching Art in Secondary Schools. (3:3:0)
Industrial Arts 464. Plastics. (2:0:4)
Marketing 347. Principles of Marketing. (5:5:0)
Marketing 459. Advertising: (5:5:0)
Marketing 465. Fundamentals of Selling and Administration. (5:5:0)

Bacteriology

Professors: J. V. Beck*, Martin (emeritus).
Associate Professors: D. H. Larsen (chairman, 124 B), Hallam.
Assistant Professor: Donaldson.
Instructor: Jackson.

Bacteriology is one of the subjects comprising the composite major in biological science designed for prospective teachers.

Medical technology is under the direction of the Department of Bacteriology. The advisor is Professor Donaldson.

The minimum requirements for a major in bacteriology are completion of the following courses or their equivalents in bacteriology and supporting fields: bacteriology, 33 hours; zoology or botany, 10 hours; Chemistry 105, 106, 107, 220, 221, 284; and Mathematics 111. Recommended courses are Bacteriology 301, 361, 371, 381, 491, 501, 502, 511, 551; Botany 101, 535, 550; Chemistry 111, 112, 113, 221, 351, 352, 353, 581, 582, 583; Mathematics 111, 112, 231, 232, 233, 234; Physics 111, 112, 113; Zoology 105, 164, 176, 417.

The following curriculum is recommended for students who want adequate preparation for post-graduate university training in bacteriology. The courses of physics, advanced mathematics, and advanced chemistry may be replaced by other courses in the physical or biological sciences for students who do not plan on graduate work.

Freshman Year

	A	W	S
Chemistry 111, 112, 113	5	5	5
Math. 111, 112, 231	5	5	5
English 111, 112, 113, or 115, 116	3	3	3
Religion	2	2	2
Physical Education	1	1	1
Health			1
Total Hours	16	16	17

Sophomore Year

	A	W	S
Chemistry 221	5		
Physics 111, 112, 113	5	5	5
Zoology or Botany		5	5
History 170			5
Social Science	5	5	
Religion	2	2	2
Total Hours	17	17	17

Junior Year

	A	W	S
Bacteriology 301, 501, 502	5	5	5
Chemistry 351, 352, 353	5	5	5
Mathematics 232, 233	4	4	
English 250			4
Religion (Humanities)	3	3	3
Total Hours	17	17	17

Senior Year

	A	W	S
Bacteriology 511, 551	5	5	
Bacteriology 491	1	1	1
Chemistry 581, 582, 583	5	5	5
Religion	2	2	2
Elective (Humanities)	2		
Electives	3	5	10
Total Hours	18	18	18

Lower Division Courses

121 (21). General Bacteriology. (4:3:2) A.W.S. (G-BS) Staff
A study of the general characteristics of microorganisms and their relation to man.

Upper Division Courses

301 (101). Microbiology. (5:3:6) A. (†G-BS) Prerequisite: Organic Chemistry. J. Beck
Introduction to microbiology.

311 (160). Sanitation and Public Health. (3:3:0) A.W.S. (G-BS) Staff
Sanitary and public health practices.

361 (119). Food Microbiology. (3:1:4) A. Prerequisite: Bacteriology 121 or 301. Donaldson
A study of the microbiology of food.

371 (120). Dairy Microbiology. (3:1:4) W. Prerequisite: Bacteriology 121 or 301. Larsen
A study of the microbiology of dairy products.

381 (121). Water and Sewage Microbiology. (3:1:4) S. (†G-BS) Prerequisite: Bacteriology 301. Staff
A study of the microbiology of water purification and sewage disposal.

401, 402, 403 (186, 187, 188). Applied Clinical Diagnosis Laboratory. (5:1-3:6-10 ea.) A.W.S. Larsen

Work is done in an approved hospital during a year's practical internship. Hospital selected must be accredited by Council of Medical Education of the A.M.A. and its pathologist and radiographic technician recognized by American Society of Clinical Pathologists. Final credits allowed on basis of a statement from the approved pathologist that student has completed intern year and is eligible to take examinations of the American Society of Clinical Pathologists.

491 (196). Seminar. (1:1:0) A.W.S. Staff

495 (198). Special Problems in Bacteriology. (Arr.) A.W.S. Staff
Individual work on research problems. Types of problems selected based on previous preparation of student.

Advanced Undergraduate or Graduate Courses

501 (181). Pathogenic Microbiology. (5:3:6) W. Prerequisite: Bacteriology 301 or consent of the instructor. Larsen
A study of the characteristics of pathogenic bacteria, viruses, rickettsia, yeasts, and molds.

502 (182). Pathogenic Microbiology. (5:3:6) S. Prerequisite: Bacteriology 501. Continuation of Bacteriology 501. Larsen

511 (183). Immunology. (5:3:6) A. Prerequisite: Bacteriology 501. Donaldson
Theories of immunity; training in serological methods.

531 (231). Virology. (5:3:6) W. Prerequisite: Bacteriology 501. Donaldson
Characteristics of viruses and virus diseases.

551 (201). Advanced Microbiology. (5:3:6) W. Prerequisite: Bacteriology 301.
Cytology, taxonomy, genetics of microorganisms. J. Beck

Graduate Courses

611 (241). Advanced Immunology. (3:3:0) S. Donaldson

652 (202). Bacterial Metabolism. (5:3:6) S. Prerequisite: Bacteriology 551. J. Beck
A study of bacterial metabolism of carbohydrates, proteins, nucleoproteins, etc.

671 (203). Industrial Microbiology. (5:3:6) S. Prerequisites: Bacteriology 101 and Biochemistry. Larsen

The role of microorganisms in the formation of such products as acids, alcohols, antibiotics, vitamins, and enzymes.

691 (294). Graduate Seminar. (1:1:0) A.W.S. Staff

695 (299). Research to Furnish Data for Thesis. (Arr.) Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

These Courses Also Count in Bacteriology:

Agronomy 614. **Advanced Soil Microbiology.** (3:3:0)

Agronomy 615. **Advanced Soil Microbiology Laboratory.** (2:0:4)

Banking

(See courses in Finance and Banking.)

Bible and Modern Scripture

(See courses in Religion.)

Botany

Professors: Harrison (chairman, 232 B), Stewart.
Assistant Professors: E. M. Christensen, K. H. McKnight, Murdock, Stutz.

A major in botany is designed to prepare a student for a professional career in governmental service, industry, research institutions in such positions as conservationist, range manager, geneticist, plant breeder, plant physiologist, mycologist, plant pathologist, plant quarantine inspector, taxonomist, museum curator, or teacher in secondary schools or institutions of higher learning.

Advisement for opportunities in range management is under the direction of the Department of Botany.

Students majoring in botany (except those planning to qualify for biology teaching or range management) should take the following courses:

Botany 101, 123, 145, 351, 390, 391, 445, 490, 491, 531, 535, 543, 546, 550, 560.

Recommended supporting courses:

Zoology 105, 164 or 263, 212, 230; Bacteriology 121 or 301; Agronomy 141, 307; Geology 101; Mathematics 101, 111, 112; Chemistry 111, 112, 113, 221; Physics 111, 112, 113.

Students planning to teach biology in secondary schools should take the following courses:

Botany 101, 123, 145, 230, 351 or 355, 390 or 391, 490 or 491, 531 or 535, 543, 550, 560; Zoology 105, 164, 230, 343 or 345, 346 or 347, 385, 496; Bacteriology 121.

Recommended supporting courses:

Agronomy 141; Geology 101; Mathematics 101, 111; Chemistry 105, 106, 107.

Students planning to qualify for positions in range management should take the following courses:

Botany 101, 112, 123, 145, 390 or 391, 393, 445, 455, 462, 465, 466, 490 or 491, 550, 560; Zoology 105, 164, 230, 550; Agronomy 141, 307, 573; Animal Husbandry 207; Agricultural Economics 350; three of the following: Animal Husbandry 335, 340, 415, Agricultural Economics 410.

Recommended supporting courses:

Chemistry 105, 106, 107 or 111, 112; Mathematics 111, 112; Geology 101, 102; Geography 400; Agricultural Economics 230.

Lower Division Courses

101 (1). General Botany. (5:3:4) A.W.S. (G-BS) Prerequisite to further work in the plant sciences. Recommended for the non-science student. Staff

Structure, physiology and reproduction of the higher plants.

Survey of the plant kingdom, including the morphology of representative species.

112 (2). The Plant Kingdom. (4:3:3) A.W. (G-BS) McKnight

123 (3). **Plant Classification.** (5:3:4) S. (G-BS) Harrison
General principles of taxonomy and use of manuals with emphasis on classification of local flora.

145 (18). **Principles of Genetics.** (3:3:0) A.W.S. (†G-BS) Prerequisites: Botany 101 or Zoology 105. Stutz
Study of the principles of heredity and variations.

175 (95). **Historical Technique.** (3:1:6) A. Prerequisite: Botany 101. McKnight
Techniques of preparing plant tissues for microscopic examination.

230 (10). **Trees and Shrubs.** (3:3:0) S. (G-BS) Staff
Names and characteristics of common trees and shrubs and their use as ornamentals and in commerce.

Upper Division Courses

310 (130). **Advanced Taxonomy.** (3-5:1:4-8) S. Prerequisites: Botany 123, 145. Harrison
Critical study of the characteristics, ecology, and classification of a limited plant group or plants of a limited area.

351 (121). **Anatomy.** (3:0:6) W. Prerequisite: Botany 101. McKnight
Origin, development, and maturation of the structures of vascular plants.

355 (112). **General Cytology.** (4:2:4) W. Prerequisite: Botany 101 or Zoology 105. Stutz
Study of the organization and functions of protoplasm.

390, 391 (180, 181). **Seminar—Junior Year.** (1:1:0 ea.) A.W. Required of all majors in their junior year. Staff
Presentation and discussion of topics from the current literature of the field.

393 (New). **Seminar in Plant Ecology and Range Management.** (1:1:0) (Does not take the place of Botany seminar.) Christensen, Stewart, Murdock

396 (New). **Special Problems in Range Management.** (1-5:1-3:0-4) A.W.S. Staff

435 (165). **Plant Geography.** (3:3:0) A. (†G-BS) Prerequisite: Botany 101 or Zoology 105. Murdock
Plant distribution and origin of plant communities in the light of present and recent geological conditions.

445, 446 (155, 156). **Field Ecology.** (2:1:0 ea.) W. Includes one field trip of about one week's duration. Prerequisite: consent of instructor. Murdock
Field studies of plants and plant communities and the environmental conditions with which they are associated.

451 (166). **Conservation of Natural Resources.** (3:3:0) W. (G-BS) Murdock
Need for, and means of providing, conservation. Conservation and management of renewable natural resources of the United States.

455 (135). **Range Forage.** (3:1:4) A. Prerequisite: Botany 123. Stewart
Characteristics, distribution, and value of the more important forage plants of the Western Range.

465 (New). **Range Revegetation and Improvement.** (4:3:3). S. Prerequisite: Botany 560. Stewart
Artificial and natural revegetation and the use and development of fencing, watering, and other range facilities.

466 (158). **Methods in Range Management.** (3-5:2:2-8) S. Prerequisite: Botany 560. Stewart
Field methods of estimating vegetation, measuring factors of soil and

climate; principles of sampling applied toward the solution of simple field problems.

470 (170). Diseases of Cultivated Plants. (5:3:4) A. Prerequisite: Botany 101., Botany 535 recommended. Stutz
Important diseases of cultivated plants, their identification, causes, and methods of control.

490, 491 (183, 184). Seminar — Senior Year. (1:1:0 ea.) A. W. Required of all majors in their senior year. Staff
Presentation and discussion of topics from current literature of the field.

495, 496 (191, 192). Special Problems. (1-5:0:3-15 ea.) A.W.S. Staff

Advanced Undergraduate or Graduate Courses

531 (101). Algae. (3:1:5) S. Prerequisite: Botany 101. McKnight
Study of the structure, relationships, and life histories of the main groups of algae.

535 (102). Fungi. (3:1:5) A. Prerequisite: Botany 101. McKnight
Study of the structure, relationships, and life histories of the representative fungi.

543 (103). Mosses and Ferns. (3:1:5) W. Prerequisite: Botany 101. McKnight
Study of the structure, relationships, and life histories of mosses, liverworts, and ferns.

546 (106). Seed Plants. (3:1:5) S. Prerequisite: Botany 101. McKnight
Study of the structure, relationships, and life histories of the seed plants.

550 (140). Plant Physiology. (5:3:4) W. Prerequisites: Botany 101, Chemistry 105 or 111. Harrison
Water relations, synthesis of foods, digestion, mineral nutrition, and growth in the higher plants.

560 (150). Plant Ecology. (5:3:0) A. (†G-BS) Prerequisite: Botany 101 or Zoology 105. Christensen
Relation of plants to their environment, their adaptations to factors of soil and climate, and their influence on each other. Field trips included.

571 (New). Watershed Management. (3:3:0) A. Field trips to be arranged. Stewart, Murdock
Influence of vegetation on water supplies, floods, soil erosion, and runoff. Methods in managing and rehabilitating damaged watersheds.

590, 591 (285, 286). Seminar. (1:1:0 ea.) A.W. Staff

593 (New). Special Problems in Range Management. (1-5:0:3-15) A.W.S. Staff

Graduate Courses

604 (231). Advanced Taxonomy. (2-5:0:6-15) S. Prerequisites: Botany 123, 145. Stutz

615 (215). Agrostology: Taxonomy and Ecology of Grasses. (3:1:4) A. Prerequisite: Botany 123. Botany 145 recommended. Harrison

625 (215). Cytogenetics. (4:3:2) S. Prerequisite: Botany 355. Stutz

665 (New). Lower Fungi. (5:3:4) W. Prerequisite: Botany 112 or 535. McKnight
Classification, structure, and relationships of the myxomycetes and phycomycetes.

668 (New). Higher Fungi. (5:3:4) S. Prerequisite: Botany 112 or 535. McKnight

Classification, structure, and relationships of the ascomycetes. **Fungi** imperfectii and basidiomycetes.

690, 691, 692 (290, 291, 292). **Special Problems.** (2-5:0:6-15 ea.) A.W.S. Staff

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

706 (260). **Experimental Ecology.** (3:2:2) S. Prerequisite: Botany 550, 560. Harrison

712 (245). **Plant Nutrition and Growth.** (3:2:2) A. Prerequisites: Botany 550; Chemistry 111, 112, 113. Organic Chemistry recommended. Harrison

733 (New). **Grassland Ecology.** (3:3:0) S. Prerequisite: consent of instructor. Harrison, Murdock

735 (New). **Forest Ecology.** (3:3:0) W. Prerequisite: consent of instructor. Christensen

742 (252). **Field Ecology.** (2:1:0) S. Prerequisite: consent of instructor. Murdock

Extended field trip.

754 (268). **Conservation of Natural Resources.** (2-5:1:3-12) A.W.S. Prerequisite: consent of instructor. Christensen, Murdock, Stewart

758 (254). **Methods in Range Management.** (3-5:1:3-12) S. Prerequisites: Botany 445, 560. Stewart

Business Education and Office Management

Associate Professors: E. L. Christensen (chairman, 127 N), Black, Croft, D. A. Peterson.

Assistant Professors: Crandall*, Stansfield, E. P. Taylor.

Instructor: Polson.

Business Education

The program in business education is planned for those who desire to prepare for teaching of business subjects in high school. This can be done concurrently with preparing for a secretarial or allied occupation, providing the student decides upon this dual preparation during his sophomore year or the early part of his junior year. Both men and women completing requirements for teaching and an office occupation find excellent opportunities in either area.

Office Management

The program in office management is planned for those who desire to become executive secretaries or office administrators. The program is designed to meet the increasing demand for graduates who have a broad education in business subjects and, in addition, possess proficiency in office skills and management.

The following programs include the requirements for majors in this department:

Business Education Major

	Recommended Years	
	Fr. So.	**Jr. Sr.**
General Education Requirements		
Religious Education	12	12
Physical Science (Classes in two depts.)	9	
Biological Science	8	
Social Science: Economics 101	5	
History 170	5	
Elective Upper Division		5
Humanities and Aesthetics (Classes in two depts.)	5	10
English Composition	9	
Physical Education and Health	4	
Professional Education Requirements		
E.R.S. 305 Development and Learning		6
Health Ed. 362 Health Education for Teachers		3
Bus. Ed. 377 Basic Classroom Procedures		4
Bus. Ed. 478 Unit Planning and Teaching		4
Bus. Ed. 479 Student Teaching		7
Ed. Inst. 550 Principles of Teaching		3
Ed. V&P 415 Educational Values		3
Ed. Adm. 310 State, School and Teacher		3
Office Management Requirements—Option One (With Shorthand)		
Off. Mgt. 101*, 102**, 103, or equiv.; 104 req.	2-8	
Off. Mgt. 111*, 112*, 113, 214, or equiv.; 311 req.	8-20	
Off. Mgt. 106 (Calculating Machines)	2	
Off. Mgt. 220 (Business English)	3	
Accounting 101 or 201 and 102 or 202	10	
Off. Mgt. 470 (Records Control and Off. Mach.)		3

	Fr. So.	Jr. Sr.
Off. Mgt. 475 (Directed Office Experience)		5
Total of 36 hrs. required in Office Mgt.; additional courses to complete this total must be chosen from Off. Mgt. 305, 320, 485, 486	0-13	

*Not allowed if student has one yr. credit in this subject in high school.

**Not allowed if student has two yrs. credit in this subject in high school.

Office Management Requirements—Option Two (Without Shorthand)

Off. Mgt. 102, 103, 104, or equivalent	6	
Off. Mgt. 106 (Calculating Machines)	2	
Off. Mgt. 220 (Business English)	3	
Accounting 101 or 201, and 102 or 202, and 216	12	
Off. Mgt. 305 (Methods for Anal. Off. Oper.)		5
Off. Mgt. 320 (Business Writing and Reporting)		3
Off. Mgt. 325 (Org. and Dict. of Bus. Corres.)		2
Off. Mgt. 470 (Records Control and Off. Mach.)		3
Off. Mgt. 480 (Case Studies in Off. Mgt.)		3
Off. Mgt. 485, 486 (Lectures in Off. Adm.)		2

Teaching Major: Completion of Office Management Requirements, Option One or Two, will complete requirements for a teaching major in office management.

Teaching Minor: This will consist of at least 24 hours in a related field. See the College of Education section of the catalog for 24-hour lists of courses in various fields which must be taken to complete a teaching minor.

Office Management Major

	Recommended Years	
	Fr. So.	**Jr. Sr.**
General Education Requirements		
Religious Education	12	12
Physical Science (Classes in two depts.)	9	
Biological Science	8	
Social Science: Economics 101	5	
History 170	5	
Elective Upper Division		5
Humanities and Aesthetics: English Literature	6	
Upper Division Elective		9
English Composition	9	
Physical Education and Health	4	
Office Management Requirements—Option One—Executive Secretaries		
Accounting 101 or 201 and 102 or 202	10	
Accounting 230 (Math. of Business)	5	
Economics 231 (Bus. Statistics)		5
Off. Mgt. 101, 102, 103, or equiv.; 104 req.	2-8	
Off. Mgt. 220 (Business English)	3	
Off. Mgt. 106 (Calculating Machines)	2	
Off. Mgt. 214 or equiv.; 311, 312 (Shorthand)	4	8
Off. Mgt. 305 (Methods for Ana. Office Oper.)		5
Off. Mgt. 320 (Business Writing and Reporting)		3
Off. Mgt. 470 (Records Control and Off. Mach.)		3
Off. Mgt. 475 (Directed Office Experience)		5
Off. Mgt. 485, 486 (Lectures in Office Adm.)		1-2
Office Management Requirements—Option Two—Office Administration		
Accounting 101 or 201, and 102 or 202	10	
Accounting 316 (Machine Accounting)	2	
Accounting 230 (Math. of Business)	5	
Economics 231 (Bus. Statistics)	5	
Finance and Banking 342 (Business Law)		5

	Fr. So.	Jr. Sr.
Marketing 347 (Principles of Marketing)		5
Off. Mgt. 102, 103, 104, 106 (Typing and Cal. Mach.)	8	
Off. Mgt. 220 (Business English)	3	
Off. Mgt. 305 (Methods for Anal. Off. Oper.)		5
Off. Mgt. 320 (Business Writing and Reporting)		3
Off. Mgt. 325 (Org. and Dict. of Bus. Corres.)		2
Off. Mgt. 470 (Records Controls and Off. Mach.)		3
Off. Mgt. 480 (Case Studies in Off. Mgt.)		3
Off. Mgt. 485, 486 (Lectures in Office Adm.)		2

BUSINESS EDUCATION

Upper Division Courses

377 (120). Basic Classroom Procedures. (4:4:3) A.W.S. Staff
For course description and fee see Education: Instruction 377.

468 (178). Fundamentals of Business Education. (3:3:0) S. Staff
A course designed for an understanding of the fundamentals of business education.

478 (138). Unit Planning and Teaching. (4:3:5) A.W.S. Staff
For course description and fee see Education: Instruction 478.

479 (139). Secondary Student Teaching. (7:1:20) A.W.S. Staff
For course description and fee see Education: Instruction 479.

OFFICE MANAGEMENT

Lower Division Courses

101 (21). Fundamentals of Typewriting. (2:5:0) A.W.S. Staff
Mastery of the keyboard and development of basic skills. Students with high school credit in typewriting are not permitted to take this course for college credit.

102 (22). Intermediate Typewriting. (2:5:0) A.W.S. Staff
Development of speed and control, and an introduction to the arrangement of typewritten material.

103 (23). Production Typewriting. (2:5:0) A.W.S. Prerequisite Beginning speed of 40 words per minute. Staff
Improvement of basic skills, measurement of production power on business letters, tabulated reports, and manuscripts; and composition at the typewriter.

104 (24). Secretarial and Statistical Typewriting. (2:5:0) A.W.S. Prerequisite: Beginning speed of 50 words per minute. Staff
Production typewriting to develop skill, accuracy, and efficiency in secretarial and statistical typewriting. Production includes business letters, legal papers, payrolls, invoices, minutes, printed business forms, tabulations, rough drafts, and statistical reports.

106 (26). Calculating Machine. (2:5:0) A.W.S. Prerequisites: Accounting 101 or 201. Staff
Instruction and training in the operation of key-driven calculators, ten-key adding and listing machines, and rotary-driven calculators.

111 (11). Beginning Shorthand. (4:5:0) A.W.S. Staff
Study of the fundamentals of shorthand with emphasis on developing fluency in reading and writing from shorthand plates. Students with previous training in Gregg shorthand are not permitted to take this course for credit.

112 (12). Shorthand Dictation. (4:5:0) A.W.S. Staff
Review of shorthand fundamentals and an introduction in taking dicta-

tion of business correspondence.

113 (13). **Intermediate Shorthand.** (4:5:0) A.W.S. Staff
Development of shorthand writing and control, beginning with 60 words per minute with the objective of developing a rate of 70 to 90 words per minute on new material.

214 (14). **Applied Stenography.** (4:5:0) A.W.S. Staff
Introduction to transcription through application of shorthand to business vocabularies. For students who write 80 words per minute on new material.

215 (15). **Applied Stenography.** (4:5:0) A.W.S. Staff
Optional course designed for students who need to build their speed to 100 words per minute or above before taking Off. Mgt. 311. Not required for a major in this department.

220 (31). **Business English.** (3:3:0) A.W.S. Prerequisite: English 111, 112, and 113; also English 211 if student is deficient in knowledge of practical business grammar. Staff
Study in current means of communication; experience in the composition of business letters.

275 (40). **Basic Office Procedures.** (3:3:3) S. Staff
For those who do not plan to take Off. Mgt. 470 and 475. Provides experience with inter-office communications, duplicating machines, filing and machine transcription.

Upper Division Courses

305 (New). **Methods for Analyzing Office Operations.** (5:5:0) A. Staff
Introduction to problems of office management and tools and methods of problem solution. Areas of concentration include office standards and quality control, job analysis and work simplification, time studies and automation in office operations.

311 (151). **Transcription.** (4:5:0) A.W.S. Staff
Places emphasis on rapidly transcribing mailable letters. Upon entering this course, students should be able to take dictation at 100 words per minute and typewrite at 50 words per minute.

312 (152). **Advanced Transcription and Speedbuilding.** (4:5:0) A.S. Staff
Places emphasis on accurate and rapid shorthand production. For students who write 100 words per minute and who desire to increase their speed to 120 words per minute.

313 (153). **Advanced Expert Shorthand.** (4:5:0) W. Staff
Expert shorthand speed course for students writing above 120 words per minute in making reports of committee meetings, board of director's meetings or conferences. Includes specialized vocabulary, testimony dictation, and Congressional Record material.

320 (110). **Business Writing and Reporting.** (3:3:0) A.S. Prerequisite: Off. Mgt. 220. Staff
Intensive experience in communicating business analysis and results of fact-finding procedures.

325 (New). **Organization and Dictation of Business Correspondence.** (2:2:0) W. Staff
Actual experience in giving dictation of office correspondence and reports. Includes elements of thought processes and organization in preparing to give dictation. Machine dictation equipment will be available for dictators.

418 (184). **Advanced Secretarial Training Review.** (4:5:0) S. Staff

Intensive concentrated skills course for last-quarter seniors and others desiring to pass Civil Service, F.B.I., merit, and other examinations immediately preceding employment.

470 **(154). Records Control and Office Machines.** (3:3:3) A.W.S. Prerequisite: Off. Mgt. 104 or equivalent. Staff

A course dealing with fundamentals of filing, machine transcription, duplicating machines, and other office equipment.

475 **(155). Directed Office Experience.** (5:5:5) A.W.S. Prerequisites: Off. Mgt. 311 and 470 or equivalent; shorthand speed of 100; typing speed of 60. Staff

480 **(160).** Case Studies in Office Management. (3:3:0) S. Staff

Extensive use of cases in office management. Student analysis, group discussions, and written reports will form principal basis for conduct of course.

485, 486 **(New).** Lectures of Office Administration. (1:1:0 ea.) Staff

This course also counts in Business Education and Office Management:

Accounting 316. Machine Accounting. (2:2:0)

Business Program

(Pre-graduate)

(See College of Commerce.)

Chemistry and Chemical Engineering Science

Professors: Broadbent (chairman, 225 ESC), Bryner, Goates, Hall, J. K. Nicholes.

Associate Professors: K. P. Anderson, Blackham, B. Brown, K. L. Nelson, H. W. Peterson, A. D. Swenson, Vernon.

Assistant Professors: Butler, Izatt, Wing, Wiser.

Superintendent of Laboratories and Stores: Meibos.

The objectives of the Department of Chemistry and Chemical Engineering are as follows: (1) to be of service to other departments of the University by offering courses in general education for all students and additional fundamental background training for majors in physical and engineering sciences, biological and agricultural sciences, nursing, family living, pre-medicine, pre-dentistry, and other areas. (2) to provide sound, thorough training in chemistry and chemical engineering for students choosing to major in these areas. (3) to contribute significantly to the sum of basic research in chemistry and chemical engineering being carried out in the universities of the world.

The Department of Chemistry offers four beginning courses in chemistry: Chemistry 100 for general education; Chemistry 101, 102, and 103, primarily for students in nursing, home economics, and general agriculture; Chemistry 105, 106, and 107, also for students in home economics and agriculture; and Chemistry 111, 112, and 113 for students who expect to major in the physical sciences and engineering, the biological sciences, medicine, and the teaching of science.

A major in chemistry shall consist of a minimum of 63 hours credit, among which credit in each of the following courses is required: Chemistry 111, 112, 113, 221, 351, 352, 353, 461, 462, 463, 591, and 592. Suggested sequences to complete the requirement are Chemistry 581, 582, 583 or Chemistry 214, 222, 400, 593 plus three additional hours in organic chemistry (15 hours credit in 351, 352, 353 instead of 12 hours) or any sequence chosen from the chemical engineering list. The student who desires to be certified to the American Chemical Society upon graduation should consult his adviser for details.

A major in chemical engineering must complete a minimum of 170 hours in the physical science group. Included in this total must be the following:

(1) Forty-seven hours in chemistry.

(2) Twenty-seven hours in the areas of engineering science or upper division physics representing electrical fields, circuits and electronics, statics, dynamics and strength of materials.

(3) The following sequence of courses in chemical engineering: Ch. E. 371 372, 373, 378, 471, 472, 473, 571, 572, 573, 575, 576, 577.

A major in pre-medical and pre-dental chemistry shall consist of a minimum of 45 hours credit in courses selected from the following list: Chemistry 111, 112, 113, 221, 351, 352, 353, 461, 462, 463.

The student who desires to teach chemistry but who majors in education rather than in chemistry should consult the lists of composite majors presented in the College of Education section of this catalog.

For special entrance requirements into the College of Physical and Engineering Sciences, see page 128 of this catalog. Attention is called especially to the college entrance requirements in mathematics and to the possibility of substituting air science credit for general education credit in the five-year engineering program.

Note that the following curricula are only "suggested." Alterations may be made with the approval of the student's adviser so long as the program does not depart from the minimum requirements for the major and a minor.

Suggested Curriculum for Chemistry Major

Freshman Year	A	W	S
Chem. 111, 112, 113	5	5	5
Math. 111, 112, 231	5	5	5
English 111, 112, 113	3	3	3
Physical Education	1	1	1
Health 130			1
Religion	2	2	2
AFROTC or Elective	2	2	2
Total Hours	18	18	19

Junior Year	A	W	S
Chem. 351, 352, 353	5	5	5
Math. 334, 335	3	3	
Biological Science	5	3	
Humanities & Aesthetics			3
German 101, 102, 103	5	5	5
Religion		2	3
Elective			2
Total Hours	18	18	18

Sophomore Year	A	W	S
Chem. 214, 221, 222	5	5	5
Math. 232, 233, 234	5	5	5
Physics 211, 212, 213	5	5	5
Religion	2	2	2
AFROTC or Elective	2	2	2
Total Hours	19	19	19

Senior Year	A	W	S
Chem. 461, 462, 463	4	4	4
Chem. 591, 592, 593	2	2	2
History 170		5	
Social Science	5		5
German 307, 308, 309	3	3	3
Religion	3	2	2
Elective	1	2	2
Total Hours	18	18	18

(The foregoing outline presumes that advantage will be taken of the opportunity to apply six hours of "double credit" in simultaneously meeting the requirement of both religion and humanities and aesthetics.)

Suggested Curriculum for Chemical Engineering Major

First Year

	A	W	S
Chem. 111, 112, 113	5	5	5
Math. 111, 112, 231	5	5	5
English 111, 112, 113	3	3	3
Physical Education	1	1	1
Health 130			1
Religion	2	2	2
AFROTC or Elective	2	2	2
M.E. 100	1		
Total Hours	19	18	19

Second Year

	A	W	S
Math. 231, 232, 233	5	5	5
Physics 211, 212, 213	5	5	5
C.E. 201, 202, 203	2	3	3
Group Electives	2	5	3
Religion	4		2
Total Hours	18	18	18

Third Year

	A	W	S
Chem. 221		5	
Chem. 351, 352, 353	4	4	4
Ch.E. 371, 372, 373	2	2	2
Ch.E. 324			2
C.E. 301, 302, 303	5	5	5
Math. 234	5		
Group Electives			3
Religion	2	2	2
Total Hours	18	18	18

Fourth Year

	A	W	S
Chem. 461, 462, 463	4	4	4
Chem. 592	2		
Ch.E. 471, 472, 473	3	3	3
Ch.E. 378	3		
E.E. 301, 302, 303	4	4	4
Group Electives		5	5
Religion	2	2	2
Total Hours	18	18	18

Fifth Year

	A	W	S
Ch.E. 571, 572, 573	3	3	3
Ch.E. 575, 576, 577	2	2	2
Ch.E. 479			3
Ch.E. 574		2	
Ch.E. 599	1	2	2
Geol. 110	4		
Group Electives	6	6	6
Total Hours	16	15	16

Lower Division Courses

100 (1). Introductory General Chemistry. (3:3:0) A.W.S. (G-PS) Staff
For students other than science majors. Students who have had high school chemistry should register for Chemistry 111.

101 (2). Introductory Inorganic Chemistry. (5:5:4) A. (G-PS) Staff
Primarily for nursing and family living majors.

102 (3). Introductory Organic Chemistry. (4:4:2) W. (†G-PS) Prerequisite: Chemistry 100 or 101 or 105. Staff
Primarily for nursing and family living majors.

103 (4). Introductory Biochemistry. (3:3:2) S. Prerequisite: Chemistry 102. Staff
Primarily for nursing and family living majors.

105, 106 (7, 8). General Inorganic Chemistry. (5:5:4 ea.). A.W. (G-PS) Staff
Primarily for majors in agriculture and family living.

107 (9). Elementary Organic Chemistry. (5:5:4) S. Prerequisite: Chemistry 106 or equivalent. Staff

111 (14). Principles of Chemistry. (5:5:4) A.W. (†G-PS) Prerequisites: Math. 101 or its equivalent or concurrent registration and high school chemistry or physics or Chemistry 100. Staff
Required of chemistry, engineering, physical science and biological science majors and of pre-medical and pre-dental students.

112 (15). Principles of Chemistry. (5:5:4) W.S. (†G-PS) Prerequisite: Chemistry 111. Staff

113 (16). Principles of Chemistry and Qualitative Inorganic Analysis. (5:3:6) Prerequisite: Chemistry 112. Staff

214 (111). Inorganic Chemistry. (5:5:0) S. Prerequisite: Chemistry 221. Izatt

220 (23). Elements of Quantitative Analysis. (4-5:3:3-6) S. Prerequisite: Chemistry 103 or 107 or 113. Butler, Wing
Quantitative analysis adapted to the needs of students in medical technology and of others interested in biological and food materials.

221, 222 (31, 132). Quantitative Analysis. (5:3:6 ea.) A.W. and W.S. Prerequisites: Chemistry 113 and Mathematics 111. Butler, Wing
For science and engineering majors. Gravimetric and volumetric analysis.

228 (136). Fire Assaying. (3:2:4) S. Prerequisite: Chemistry 113. Wing

284 (110). Introductory Physiological Chemistry. (5:3:4) A. Prerequisite: Chemistry 102 or 107. Vernon

Upper Division Courses

324 (125). Fuels and Fuel Analysis. (2:1:3) S. Wing
A study of the important fuels used in industry. Experimental methods of analysis of fuels.

351, 352, 353 (151, 152, 153). Organic Chemistry. (4-5:3:3-6 ea.) A.W.S. Prerequisites: Chemistry 113, 221. Blackham, Nelson
For science and engineering majors.

371, 372, 373 (114, 115, 116). Chemical Engineering Fundamentals. (2:2:0 ea.) A.W.S. Prerequisite: Physics 212. Concurrent: Chemistry 221 or 351. Staff
Stoichiometry of industrial chemical processes; study of material, energy and economic balances.

378, 379 (177, 178). Engineering Materials. (3:3:0, 2:2:0) A.W. and W.S. Pre-

requisite: Chemistry 112. Staff
Study of chemistry and application of metals and plastic materials in engineering.

400 (101). Methods of Glass Manipulation. (1:0:4) A.W.S. Bryner
Exercises in glass working. Registration by permission of instructor.

461, 462, 463 (161, 162, 163). Physical Chemistry. (4:3:3 ea.) A.W.S. Prerequisites: Chemistry 221, Physics 213, Mathematics 234. Bryner, Anderson
For science and engineering majors.

471 (166). Chemical Engineering Thermodynamics and Unit Operations. (2:2:0) A. Prerequisite: Chemistry 371 or 461. Brown

472 (165). Chemical Engineering Thermodynamics and Unit Operations. (3:3:0) W. Prerequisites: Chemistry 461, Mathematics 233. Brown
First and Second Laws of Thermodynamics and their applications; behavior real gasses, thermodynamic potential functions, phase equilibria, chemical equilibrium.

473 (167). Chemical Engineering Thermodynamics and Unit Operations. (3:3:0) S. Prerequisite: Chemistry 472 or equivalent. Brown
A study of heat and mass transfer phenomena as they apply to chemical engineering equipment design.

474 (179). Chemical Engineering Process Principles. (3:3:0) S. Brown
A study of industrial chemical processes.

Advanced Undergraduate or Graduate Courses

504 (237). Instrumental Analysis. (2-3:2:3-6) S. Staff
Theory and technique in spectrophotometry, electrometric titration methods, radiochemistry, mass spectrography, etc.

508 (290). History of Chemistry. (3:3:0) S. Nicholes

551 (251). Qualitative Organic Analysis. (3-4:2:3-6) A. Broadbent, Nelson
Systematic identification of organic compounds singly and in mixtures.

561, 562 (261, 262). Chemical Thermodynamics. (4:4:0 ea.) A.W. Goates
Classical and statistical thermodynamics.

571, 572, 573 (171, 172, 173). Chemical Engineering Unit Operations. (3:3:0 ea.) A.W.S. Prerequisite: Chemistry 471. Wiser
Distillation, evaporation, absorption, extraction, drying, psychrometry, sedimentation, filtration, crushing, screening.

574 (196). Principles of Chemical Plant Design. (2:1:0) W. Brown

575, 576, 577 (174, 175, 176). Unit Operations Laboratory. (2:0:4 ea.) A.W.S. **Staff**

581, 582, 583 (181, 182, 183). Biochemistry. (5:3:6 ea.) A.W.S. Prerequisites: Chemistry 221, 353. Swensen, Vernon
A general treatment of the chemistry of substances and processes of biological significance.

591, 592, 593 (191, 192, 193). Chemical Literature and Scientific Writing. (2:1:3 ea.) A.W.S. Broadbent
Introduction to use of both primary and secondary sources, techniques for searching chemical literature, technical report writing, reviews.

597 (197). Special Problems. (Arr.) Registration by permission. Staff

599 (200). Chemical Engineering Undergraduate Thesis. (Arr.) Registration by permission. Staff

Graduate Courses

605, 606, 607 (265, 266, 267). Advanced Physical Chemistry. (2:2:0 ea.) A.W.S. Hall

611 (212). Theoretical Inorganic Chemistry. (3:3:0) A. Izatt

616 (211). Systematic Inorganic Chemistry. (3:3:0) W. Izatt

621 (221). Theory of Quantitative Analysis. (3:3:0) S. Butler

652, 653, (252, 253). Advanced Organic Chemistry. (3:3:0; 5:5:0) W.S. Broadbent, Nelson

658 (254). Organic Syntheses. (2-3:0:6-9) W. Blackham, Broadbent

685, 686 (281, 282). Advanced Biochemistry. (3:3:0 ea.) A.W. Swensen, Vernon

697 (297). Master's Candidate Research. (Arr.) Staff

699 (300). Thesis for the Master's Degree. (Arr.) Staff

710 (213). Inorganic Syntheses. (3:0:9) S. Izatt

728 (222). Microchemical Analysis. (1-3:1:0-6) A.W.S. Wing

764 (264). Radiochemistry. (3:3:0) S. Anderson

783 (283). Enzyme Chemistry. (3-5:3:0-6) S. Vernon

Church History

(See courses in Religion.)

Civil Engineering Science

Professors: Hodson (chairman, 198 ELB), Fuhriman.
Associate Professors: Firmage, Rollins.
Instructors: Calder, Perry.

Students entering the Department are required to follow specified courses which have been planned to provide a broad training in all basic aspects of civil and structural engineering. The qualifications obtainable are applicable in such closely related technical fields as applied mechanics, architectural engineering, etc.

Entrance Requirements

These include both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences (see page 128). Students are urged to include trigonometry and intermediate algebra in high school courses.

Graduation Requirements

The degree of Bachelor of Engineering Science may be obtained by completing the program specified below. Major and minor academic requirements are automatically satisfied by completion of the course specified.

Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirements outlined on page 75. In addition, they may substitute three hours of air science for any three hours of the general education requirements. The program outlined assumes that advantage will be taken of the opportunity to cross reference six hours of religion with six hours of other general educational requirements. Particular information relative to other recommended courses to be included in the general educational requirements or possible options emphasizing various professional aspects may be had by direct application to the department chairman.

The following abbreviations are used: Ch.E., for Chemical Engineering; C.E., for Civil Engineering; E.E., for Electrical Engineering; G.E., for Geological Engineering; and M.E., for Mechanical Engineering.

Suggested Sequence of Courses for Majors

First Year

(Common to all engineering science courses)

	A	W	S
Chemistry 111, 112*	5	5	
Mathematics 111, 112, 231	5	5	5
English 111, 112, 113 or 115, 116	3	3	3
Religion	2	2	2
Physical Education	1	1	1
Health Education		1	
Group Elective			5
M.E. 100	1		
Total Hours	17	17	16

Second Year

(Common to all engineering science courses)

	A	W	S
Mathematics 232, 233, 234	4	4	4
Physics 211, 212, 213	5	5	5
Religion	2	2	2
C.E. 201, 202, 203	2	3	3
Group Electives	5	3	3
Total Hours	18	17	17

Third Year

	A	W	S
C.E. 301, 302, 303	5	5	5
C.E. 320	5		
Ch.E. 278, 279		3	3
M.E. 327, 410, 330	4	4	3
M.E. 367	1		
Geology 110			4
Religion	2		2
Group II Elective		2	
Group IV Elective**		3	
Total Hours	17	17	17

Fourth Year

	A	W	S
C.E. 401, 432	3		3
C.E. 402, 403, 404	4	5	5
C.E. 429, 410, 419	4	4	5
Mathematics 315, 316	3	3	
Religion	2		
Group II Elective		5	
Group IV Elective			4
Total Hours	16	17	17

Fifth Year

	A	W	S
C.E. 501	5		
C.E. 519, 549	4		3
E.E. 301, 302, 303	4	4	4
C.E. Restricted Electives		5	5
Group III Elective		5	
Group IV Elective	3		
Total Hours	16	14	12

*Students not having proper entrance requirements in mathematics may schedule Chemistry 111 and 112 during Winter and Spring Quarters.

**Cross reference with religion.

Civil Engineering Restricted Electives

Subject to approval, 10 credit hours of elective subjects shall be selected from the following five-hour courses: Civil Engineering 504, 505, 506, 510, 522, 530, 546, 547, 548.

Lower Division Courses

201 (9). **Engineering Graphics.** (2:0:6) A. Prerequisites: Mathematics 111, 112, 231; must be taken concurrently with Mathematics 232, 233, 234. Staff

Materials and instruments in engineering drawing, introductory practice in orthographic projection, transfer of pictorial sketches and machine part samples to scaled drawing, reproduction processes, drawing principles.

202 (10). **Engineering Graphics.** (3:2:4) W. Prerequisite: C.E. 201. Staff

Graphic principles, including descriptive geometry; projections, perspective applications, and developments.

203 (11). **Engineering Graphics.** (3:2:4) S. Prerequisite: C.E. 202. Staff

Graphical mathematics, empirical equations, nomography, graphical calculus, graphic statics.

Upper Division Courses

301 (101). **Engineering Mechanics (Statics).** (5:4:3) A. Prerequisites: general physics and C.E. 201, 202, 203. Staff

Introductory concepts of mechanics, force systems and problems of equilibrium applied to structures, centers of gravity and centroids, elementary hydrostatics, friction in engineering problems, beam problems, virtual work.

302 (102). **Engineering Mechanics (Dynamics).** (5:4:3) W. Prerequisite: C.E. 301. Staff

Definitions and principles of kinematics and kinetics; engineering applications in terms of force, mass, acceleration, work and energy, impulse and momentum, periodic motion.

303 (103). **Engineering Mechanics (Mechanics of Materials).** (5:4:3) S. Prerequisite: C.E. 301. Staff

Fundamental concepts in terms of elastic stress and strain relations; cylinders and spheres under pressure; problems of torsional load; beam theory including bending stresses, complex stress, calculation of deflection and continuity aspects; two-dimensional elastic theory.

320 (120). **Surveying I.** (5:3:4) A. Prerequisites: Civil Engineering 201, 202, 203. Staff

Lectures and field work in measurements of distances, angles, and differences of elevation using the usual survey methods and instruments; compass and sextant; preparation of notes; adjustments; simple triangulation and traverses; plane table.

401 **(110). Properties of Materials.** (3:2:3) A.W. Prerequisite: C.E. 303 or consent of instructor. Staff

Theories and procedure of physical testing of materials, introduction to failure theories and rheological behavior of materials, the mechanics of deformation.

402 **(140) Structures 1.** (4:3:3) A. Prerequisite: C.E. 303. Staff

Theory and design of statically determinate frame structures in steel and timber; loading problems, influence lines, deflection.

403 **(141). Structures 2.** (5:4:3) W. Prerequisite. C.E. 402. Staff

Continuation of Civil Engineering 402, web girders, mill buildings, column and joint details.

404 **(142). Structures 3.** (5:4:3) S. Prerequisite: C. E. 403. Staff

Continuation of Civil Engineering 403; theory and design of elastic approach to reinforced concrete structures; proportioning of concrete structures, building code requirements.

410 **(130). Concrete Technology I.** (4:3:3) W. Prerequisite: Geology 110, C.E. 303. Staff

Manufacture and testing of cements, technology of concrete materials and concrete mix design; techniques of concrete handling, placing and treatment; laboratory work.

419 **(121). Surveying II.** (5:3:4) S. Prerequisite: C.E. 320. Staff

More advanced work in survey, precise levelling, tacheometry, reconnaissance and route surveying; vertical and horizontal curves; observations for meridian and latitude; introductory photogrammetry and underground surveying.

429 **(160). Hydraulic Design.** (4:3:3) A. Prerequisite: M.E. 410. Staff

Theory and design of water control and water conveyance structures such as dams, pipe-lines, open channels, hydraulic transitions.

432 **(161). Hydrology.** (3:2:3) S. Prerequisite: C.E. 429. Staff

A study of water as it occurs in nature; relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff; methods of collection of hydrologic data and their use in water resource and flood control studies.

Advanced Undergraduate or Graduate Courses

501 **(143). Structures 4.** (5:3:6) A. Prerequisite: C.E. 404. Staff

Theory and design of statically indeterminate structures, redundant frames, strain energy methods, Castigliano's theorems, slope-deflection equations and relaxation methods, associated drawing office work.

504 **(210). Theory of Elasticity.** (5:4:3) A. Prerequisites: C.E. 401, Mathematics 315, 316. Staff

Theory of elastic behavior, complex stress failure and failure theories, selected experimental work.

505 **(202). Advanced Structures.** (5:3:6) W. Prerequisite: C.E. 501. Staff

Continuation of Civil Engineering 501. Selected topics in advanced structural theory and design.

506 **(212). Experimental Stress Analysis.** (5:3:6) A. Prerequisites: C.E. 401, Mathematics 315, 316. Staff

Theory and practice of photoelasticity, structural similitude, analogies. Selected experimental investigations.

510 **(230). Concrete Technology II.** (5:3:6) S. Prerequisite: C.E. 410. Staff

Basic behavior of concrete materials, introductory micromeritics, physical behavior of set concretes; cement additive and replacement compounds applied to concrete performance; examination of physical and chemical factors; special techniques.

519 (150). **Soil Mechanics.** (4:3:3) A. Prerequisites: C.E. 303, Geology 110. Staff

Properties of soil related to engineering problems. Permeability, capillarity and compressibility related to seepage, uplift and settlement of structures. Shear and bearing factors generally. Cuttings, embankments, and earth dam theories.

522 (250). **Advanced Soil Mechanics.** (5:3:6) W. Prerequisite: C.E. 519. Staff

Revision and extension of theories of soil behavior; foundations, tunnels and arching problems, stability of slopes, stabilization.

530 (240). **Advanced Hydraulic Design.** (5:3:6) W. Prerequisite: C.E. 404, 429, 432. Staff

Planning and basic design of hydro-electric, flood control, irrigation, and multi-purpose projects involving the utilization of water resources; consideration of hydraulic and hydrologic design elements.

546 (173). **Road Engineering and City Planning.** (5:2:8) W.S. Prerequisite: fifth-year standing in engineering science. Staff

Design and construction practice in highways and ancilliary works, fundamentals of city planning.

547 (172). **Public Health and Sanitation.** (5:3:4) W.S. Prerequisite: fifth-year standing in engineering science. Staff

Review of public health engineering; application to design, construction and operation of water supply and sewerage systems.

548 (171). **Construction Methods and Equipment.** (5:3:4) A. Prerequisite: fifth-year standing in engineering science. Staff

Analysis of construction procedure, cost estimating, job planning, capacity of plant, operating schedules and costs.

Clothing and Textiles

Assistant Professors: M. S. Potter (chairman, 3256H SFLC), Jorgensen.
Instructors: Domgaard, E. L. Gardner, Trost.

The Department of Clothing and Textiles strives to help the student understand clothing as it relates to personal needs and to the needs of family members. Consideration is given to the satisfaction of desires to express creative abilities; the understanding of fabrics, their selection, use and care; economy; and the comfort and health of the body. The curriculum offers experience in clothing selection, buying, design, and construction; provides instruction in the identification and quality of textiles; and engenders an appreciation for the history of costume and textiles.

Opportunities in the field of clothing and textiles include work with fabric or pattern companies, consumer education, dressmaking, teaching and buying. Advanced study is usually necessary for positions in fashion merchandising, display, promotion and personnel work in retail stores, designing, textile testing, or design and research.

For minors in clothing and textiles, a total of at least 20 credit hours in the department is required. A minimum of one course in at least 3 of the 4 areas listed is suggested:

Construction: 105, 115, 225, 335, 355, 475, 595.
Textiles: 260, 560, 590, 594.
Design and Selection: 110, 124, 340, 345.
Economics and History: 330, 430, 370, 472.

For majors in clothing and textiles, a minimum of 32 credit hours in the department is required, including at least 5 hours in each of the four areas. A special problem (CT 594 or 595) is expected. These hours must be combined with enough credits in the College to total 60 hours. Included shall be:

	Hours
Economics and Management of the Home	3
Food and Nutrition	4
Housing and Design	3
Human Development and Family Relationships	6
Total Hours	16

Suggested Program for Majors

Freshman Year

	Hours
Religion*	6
English**	9
Phys. Ed. and Health**	4
Chemistry 101, 102 or 105, 106, 107	9 or 15
Psychology 111	5
Art 110*	2
Family Living 101	1
Clothing and Textiles 110, 115, 225	8
Electives	4-7

Sophomore Year

	Hours
Religion*	6
Physics 104	3
Bacteriology 121	4
Zoology 164	5
Economics 101	5
Food and Nutrition 110, 240	4-8
Housing and Design 120, 335, 360	2-3
Human Development and Family Relationships 210, 211	3-4
Clothing and Textiles 260	3
Electives	7-13

Junior Year

	Hours
Religion*	6
English (Literature)	3
History 180	5

Art	2
Econ. and Mgt. of the Home 330	3
Hum. Dev. and Fam. Rel. 322, 360, 361	3
Clothing and Textiles (Courses toward major)	10
Electives	16

Senior Year

	Hours
Religion*	6
English (Literature)	3
Humanities and Aesthetics (art, music, speech)	6
Homemaking Education 377, 381	6
Econ. and Mgt. of the Home 470	4
Clothing and Textiles (Courses toward major)	11
Electives	11-13

*Required
**Required during year listed.

Students interested in textile design may complete a major in clothing and textiles with a minor in art. The following courses are recommended: Art 111, 121, 304, 314, 350, 352, 362, 366.

Those interested in costume design may complete a major in clothing with a minor in art. The following courses are recommended: Art 111, 122, either 304, 314, 322, 343, 352, 362, 366.

Those interested in fashion merchandising may complete a major in clothing and textiles with a minor in marketing. The following courses are required: Marketing 347, 459, 465, plus 5 hours selected from among Marketing 451, 458, 470, and 471.

Majors in clothing and textiles desiring to teach in secondary schools should complete a double major in homemaking education and clothing and textiles. (See requirements for homemaking education.) This plan requires at least two additional quarters, or 33-36 credit hours.

Courses in other departments that might be of interest to students in clothing and textiles are Art 250, Print Making; 259, Ceramics; 263, Crafts; 304, Art History and Appreciation; 366, Metal Work and Jewelry; Housing and Design 120, Weaving; 360, Home Furnishings; Industrial Arts 119 or 319, Upholstery; 263, Crafts; 464, Plastics.

Many of the following courses are planned to be of value to both men and women.
(For more information see section in College of Family Living.)

Lower Division Courses

105 (5). Elementary Clothing Construction. (2:0:4) A.W.S. No credit given toward a major in clothing and textiles.
Service course for students with little or no experience in sewing. Construction of garments such as blouses, skirts, jumpers, cotton dresses, house coats and pajamas.

110 (10). Selection and Care. (2:2:1) A.W.S. Jorgensen
Self-improvement and self-expression approached through study of elements and principles of design as applied to selection and wearing of clothes and accessories; planning, cost and care of wardrobe; personal analysis—grooming, posture, poise and personality.

115 (15). Dress Construction. (3:0:6) A.W.S. Staff
Factors that influence choice of patterns and materials for dresses. Construction of a tailored dress with emphasis on techniques and procedures.

124 (20). Clothing Selection and Care. (1:2:1) A.W.S. Elect with Food and Nutrition 124. Bryner, Gardner
Designed to help men students develop good taste and judgment of values in clothing selection and purchase. Practical experience provided in clothing care, choice of color, fabric and style.

225 (25). Design and Construction. (3:0:6) A.W.S. Prerequisite: Clothing and Textiles 115. Staff

Introduction to pattern analysis; modification of commercial patterns. New techniques, design problems, and dressmaking skills applied to construction of afternoon and evening dresses.

260 (60). **Textiles.** (3:3:3) A.W.S. Domgaard, Potter
Natural and synthetic textile fabrics; fibers, yarns, weaves and other methods of fabrication, dyes, finishes, properties, and uses from consumer point of view.

Upper Division Courses

330 (130). **History of Costume.** (3:3:0) A. Jorgensen
Social, economic, and political influence on dress. Study of costume as expression of the life of the people and as basis for interpreting modern fashions.

335 (135). **Family Clothing.** (3:0:6) A.W.S. Prerequisites: Clothing and Textiles 225 and 260. Domgaard, Jorgensen
Problems involving selection, cost, care, construction and remodeling of clothing for family members.

340 (150). **Costume Design.** (3:2:4) W. Prerequisites: Art 110 or Clothing and Textiles 110 and 115; recommended: 225 and 330. Potter
By use of various media for inspiration, opportunity for creative experience is given in applying principles of line, texture, and color to dress design.

345 (155). **Draping and Flat Pattern Design.** (3:0:6) S. Prerequisites: Clothing and Textiles 225 and 260; recommended: 330 and 340. Jorgensen, Gardner
Creative design achieved through techniques of draping on individualized dress form and of flat pattern design.

355 (145). **Tailoring.** (4:0:12) A.S. Prerequisites: Clothing and Textiles 225 and 260; recommended: 110. Domgaard, Gardner
Custom tailoring techniques applied to construction of coats and suits.

370 (170). **Economics of Clothing and Household Textiles.** (2:2:0) A. Trost
Determining factors in selection and purchase of family clothing articles and household fabrics, such as linens, rugs, draperies, and upholstery.

430 (140). **Historic Textiles.** (3:3:0) A.W.S. Taught 1958 and alternate years. Prerequisites: Clothing and Textiles 260. Potter
History and development of textile fabrics, including weaves and patterns; hand-made lace, tapestry, and oriental rugs.

472 (172). **Fashion Industry.** (2:2:0) W. Taught 1957 and alternate years. Gardner
History, development and function of fashion industry and garment production; fashion designers, fashion cycles and trade organizations.

475 (175). **Construction Techniques.** (2:0:6) Prerequisite: Clothing and Textiles 225. Domgaard, Jorgensen
Comprehensive course in sewing techniques. Preparation of illustrative material for aid in teaching.

Advanced Undergraduate or Graduate Courses

560 (160). **Advanced Textiles.** (2:2:2) A. Not offered in 1957. Prerequisites: Clothing and Textiles 260, Chemistry 101 and 102. Potter
Testing physical and chemical properties of fibers and fabrics to determine their use and care. Recent textile developments.

590 (180). **Readings.** (2:2:0) W. Restricted to students who have completed at least 17 hours of clothing and textiles. Staff
Reports and discussions on current literature in Clothing and Textiles.

594 (194). **Special Problems in Textiles.** (Arr.) A.W.S. Staff

595 (195). **Special Problems in Clothing Construction.** (Arr.) A.W.S. Staff

Comparative Literature

(See courses in English.)

Dairy Husbandry

(See courses in Animal Husbandry.)

Dramatic Arts

(See courses in Speech and Dramatic Arts.)

Drawing

(See courses in Industrial Arts and Drawing.)

Economics

Professor: Pond.
Associate Professors: Corbridge, Nelson.
Assistant Professor: Davies.
Instructors: Bradford, Doxey.

The Economics Department services three types of students:

1. The economics major interested in a wide range of challenging areas available.
2. All business students, assisting them to see where their specialty fits into the general economic picture.
3. The general university student to aid him in his role as a consumer, worker, and citizen.

The philosophy of the department is to provide a liberal background to serve as a good basis for entrance into many professional areas. Thus, only a minimum of specific courses is required, allowing the student great flexibility in developing his own program.

Economics is one of the subjects comprising the composite majors in business and in social science designed for prospective teachers.

Suggested Program for Economics Majors

(Includes university, college and departmental requirements.)

Freshman and Sophomore Years

General Education	Hours
Religion	12
Physical Science	9
Biological Science	8
English 111, 112, 113 or equivalent	9
Physical Education and Health	4
Humanities	10
Total	52

General Commerce and Tool Courses	Hours
Accounting 101, 102 or 201, 202	10
Economics 101	5
Economics 274	5
Economics 231	5
Accounting 230	5
Political Science 110	5
Psychology 111 or approved substitute	5
Total	40
Electives	16
Grand Total	108

Junior Year

General Education	Hours
Religion	6
General Commerce and Tool Courses	
Finance and Banking 342	5
Finance and Banking 453	5
Marketing 347	5
Total	15
Economics	
Economics 345	5
Electives	28
Grand Total	54

Senior Year

General Education	Hours
Religion	6
Economics	
Economics 580	5
Economics 586	5
Electives	38
Grand Total	54

It is recommended that students majoring in economics consult with their departmental advisors as to other suggested courses, depending on their special interests. Especially suggested are the following: Economics 461 and 575; Finance and Banking 348 and 451; and Industrial Management 340.

Suggestions for a Minor in Economics

Twenty hours of credit in economics are needed for a minor. Required is Economics 101. Recommended are Economics 274, 345, 461, and 575.

Lower Division Courses

101 (1). **Economic Principles and Problems.** (5:5:0) A.W.S. (G-SS) Staff
Basic general education course in economics to prepare students for citizenship by training in fundamental economic principles and developing an understanding of the most important aspects of some of the critical economic problems facing America and the world today.

231 (75). **Introduction to Business and Economic Statistics.** (5:5:0) A.W.S. Staff
Introduction to the sources, the methods of processing, and the presentation of statistical data. Experience in dealing with raw statistical data, machine operation, chart and graph preparation, and statistical report writing given in the laboratory sections.

274 (74). **Economic and Financial History of the United States.** (5:5:0) A.W.S. (G-SS) Doxey
Study of the origins and development of agriculture, commerce, industry, finance, labor, international trade, and public policies in the United States as they affect our present economic structure, forces, and activities.

Upper Division Courses

345 (145). **Intermediate Economic Theory.** (5:5:0) A.W.S. Prerequisite: Economics 101. Doxey
Intensive analysis of production principles and price theory.

461 (161). **Labor Problems and Labor Relations.** (3:3:0) A. (G-SS) Davies
Rise and growth of labor organizations resulting from modern industrialization, public regulation of the labor movement, development and organization of the wage system, and problems of labor-management relationships.

Advanced Undergraduate or Graduate Courses

533 (New). **Statistical Methods.** (5:5:0) S. Prerequisite: Economics 231. Staff
Application of more advanced statistical techniques to the solution of economic, business, and public problems.

550 (268). **Economics of Finance.** (5:5:0) W. (Not offered this year.) Staff

556 (156). **Transportation and Traffic Management.** (5:5:0) A. Davies
Growth and development of modern methods of transportation, problems of rate determination, development of public regulation, current problems, problems of traffic management for transportation companies and industrial and commercial organizations.

558 (278). **International Trade and Finance.** (3:3:0) S. Doxey

562 (262). **Collective Bargaining and Industrial Relations.** (3:3:0) W. Prerequisite: Economics 461. Davies

563 (263). **Labor Law.** (3:3:0) S. Prerequisite: Economics 461. Davies

575 (167). **Government Finance.** (5:5:0) W. (G-SS) **Bradford**
Financing of federal, state, local government. Includes a study of expenditures; principles and practices of budgeting; governmental revenues, with emphasis on problems of taxation and public debt.

576 (176). Government and Business. (3:3:0) A. Bradford
General survey of governmental activities affecting business. Political, economic, and legal bases of governmental regulation and probable limits and difficulties in applying such regulations to our economic system.

580 (249). History of Economic Thought. (5:5:0) W. Davies

586 (246). Advanced Economic Theory. (5:5:0) S. Prerequisite: Economics 345. Doxey

593, 594, 595 (285, 286, 287). Seminar. (1-2:1-2:0 ea.) A.W.S. Staff

Graduate Courses

696, 697, 698 (296, 297, 298). **Research.** (Arr.) A.W.S Staff

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

These courses also count in Economics:

Finance and Banking 451. Investments. (5:5:0)
Finance and Banking 453. Money and Banking. (5:5:0)
Finance and Banking 465. Real Estate and Urban Land Economics. (5:5:0)
Geography 223. Economic Geography. (3:3:0)
Marketing 347. Economics of Consumption. (3:3:0)

Economics, Agricultural

(See courses in Agricultural Economics.)

Economics and Management of the Home

Instructors: V. Barnett (acting chairman, 1206A SFLC), S. Lewis

The courses in the Department of Economics and Management of the Home provide an opportunity to study the management of family resources in terms of the goals of all members of the family. The student is helped to understand that choices in regard to the uses of material goods, time, energy, money, abilities, and skills are made primarily on the basis of family relationships and the optimum development of the individual.

A minor is offered in the department. A major may be elected in conjunction with the Department of Housing and Design or other related departments.

For a combined major in economics and management of the home and housing and design a total of 32 credit hours in the two departments is required. For graduation from the College of Family Living these hours must be combined with enough credits in the College to total 60 hours. Included shall be clothing and textiles, 4 hours; food and nutrition, 4 hours; human development and family relationships, 6 hours.

Following is a suggested program for a combined major in economics and management of the home and housing and design.

Freshman Year	**Hours**
Religion	6
English	9
Phys. Ed. and Health	4
Art 110	2
Physics 104	3
Chemistry 101, 102 (minimum total 9 hrs.)	9
Psychology 111	5
Food and Nutrition 110	4
Housing and Design 120	2
Hum. Dev. and Fam. Rel. 160	2
Family Living 101	1
Clothing and Textiles 105, 110, or 115	2-3

Sophomore Year	**Hours**
Religion	6
Zoology 164	5
Economics 101	5
Humanities and Aesthetics	4-7
Clothing and Textiles 225	3
Bacteriology 121	4
Food and Nutrition 210, 264	4-8
Hum. Dev. and Fam. Rel. 210, 211	4-8
Econ and Mgt. of Home 150, 165	2, 3
Housing and Design 335	3
Electives (Horticulture and Ind. Art)	2-5

Junior Year	**Hours**
Religion	6
English (Literature)	3
History 180	5
Art 314-417	9
Clothing and Textiles 260, 335	3, 3
Food and Nutrition 240	4
Hum. Dev. and Fam. Rel. 360, 361	3-6
Econ. and Mgt. of Home 325,330	3-3
Housing and Design 360	2
Electives (Finance and Banking, Speech, Accounting)	6-9

Senior Year	**Hours**
Religion	6
English (Literature)	3
Homemaking Education 475	2
Hum. Dev. and Fam. Rel. 322, 440	6-8
Econ. and Mgt. of Home 470, 580, 590, 595	4, 2, 3, 3
Housing and Design 375	3
Electives (Optional courses not elected previous years, Adult Education, Journalism, Marketing	15-20

Courses in other departments that may be of interest to students in economics and management of the home are Accounting 101; Agricultural Economics 123; Clothing and Textiles 370; Economics 101; Finance and Banking 460; Food and Nutrition 240, 340; Housing and Design, all courses; Journalism 101, 211; Marketing 451.

Most of the following courses are planned to be of value to both men and women.

Lower Division Courses

130 (30). **Management for Effective Living.** (3:3:0) A.W.S. S. Lewis
Goals and values of homemaking as related to group living and to such activities as meal planning, shopping, budgeting, cleaning, recreation, and use of leisure.

150 (50). **Simplification in Household Tasks.** (2:2:0) A. V. Barnett
Effective planning of home work centers. Ways in which the homemaker may lighten her work within the home.

265 (65). **Consumer in the Market.** (3:3:0) W. (Not given this year.) V. Barnett
Aids toward intelligent buying of commodities. Effect on the consumer of present market practices. Consumer protection, including labeling of merchandise. Comparison of quality in various household items.

Upper Division Courses

325 (125). **Family Finance.** (3:3:0) A.S. Prerequisite: Economics 101. V. Barnett
Economic problems of most direct concern to the family of today. Sources and adequacy of family income, its apportionment and expenditure in terms of family needs.

330 (130). **Home Management.** (3:3:0) W.S. Prerequisites: Human Development and Family Relationships 361 and Food and Nutrition 240 or 340.
V. Barnett
Place of management in achieving personal and family goals from time of marriage to retirement. Opportunities for children to share and take responsibility. Management related to specific resources, as time, energy, money, material goods, skills, abilities and interests.

470 (170). **Homemaking Apartment.** (4:4:20) A.W.S. Prerequisites: Economics and Management of the Home 330 and Food and Nutrition 240 or 340. Arrangements are to be made in advance for living in the apartment. S. Lewis
Students live in the homemaking apartment one half of the quarter (block), for experience in group living and management at various cost levels. No rent is paid. Food and incidentals average $35.00 to $40.00 for the five-week period ($5:00* payable at registration the quarter before residence; $35.00 payable at beginning of residence).

*Not returnable.

Advanced Undergraduate or Graduate Courses

580 (180). **Readings in Economics and Management of the Home.** (2:2:0) (Not given this year.) Prerequisites: 16 hours of economics and management of the home. Staff

590 (190). **Problems in Management of the Home.** (Arr.) (Not given this year.) Prerequisites: 18 hours of economics and economics and management of the home. By permission of instructor and dean. Staff
Independent study of a special problem in management of the home under direction of an instructor.

595 (195). **Problems in Economics of the Home.** (Arr.) (Not given this year.) Prerequisite: 18 hours of economics and economics and management of the home. By permission of instructor and dean.
Independent study of a special problem in economics of the home under direction of an instructor.

Graduate Courses

651 (New). **Problems in Teaching Management of the Home in Secondary Schools.** (3:3:0) Su. Staff

665 (New). **Problems of the Consumer.** (3:3:0) Su. Staff

Education: Instruction

Professors Browne, E. M. Jenson,

Associate Professors: Callahan (chairman, 153 McK), J. Roman Andrus, Bauer, Campbell, Candland, Gunn, Martino, Mathews.

Assistant Professors: Alder, Babcock, Berryessa, Crnkovic, Daines, Flandro, Hammond (emeritus), Maeser, Shirts, Tyndall, W. B. Wilson.

Instructors: Carle, Gagon, Groesbeck, Memmott, Young.

The offerings in this department are intended to assist teachers in the development of the skills involved in the act of instruction, whether it be in or out of the classroom, and at any level or in any special area of education. Courses sponsored exclusively by this department are usually limited to those in which methodology of teaching or problems in organizing materials for teaching are the dominant content.

The offerings in instruction are presented under the following divisions: general, elementary, secondary, college, and special study.

GENERAL INSTRUCTION

Courses listed under "General Instruction" serve the needs of other divisions within the Department of Instruction.

Upper Division Courses

305 (175). **Audio-Visual Education.** (3:3:1) A.W.S. Tyndall, Memmott

Introduction to audio-visual field. Sources, selection, evaluation, and utilization of audio-visual materials in the classroom in accordance with modern psychology of learning. Operation and care of projection equipment.

307 (177). **Motion Picture Photography.** (3:3:1) A.S. Prerequisites: Physics 177, Speech 251, Instruction 305 or equivalent. Tyndall

Principles of motion picture photography in educational, recreational, and professional application; practice in use of motion picture camera for indoor and outdoor subjects; script preparation, film editing, titling, sound recording, and special effects.

Advanced Undergraduate or Graduate Courses

550 (185). **Principles of Curriculum and Teaching.** (3:3:0) A.W.S. Prerequisite: Instruction 448 (Elementary) or Instruction 479 (Secondary). Staff

Systematic survey of principles developed from preceding courses, extended by addition of other principles fundamental to the methodology of teaching and applied to the complete role of the teacher.

Graduate Courses

605 (275). **Audio-Visual Materials and Procedures.** (3:3:1) W. Prerequisite: Instruction 305. Tyndall, Staff

608 (278). **Radio and Television in Education.** (2:2:1) S. Tyndall

610 (284). **Advanced Student Teaching for Experienced Teachers.** (2-8:1:4-20) A.W.S. Prerequisite: Field experience plus approval of special committee and chairman of department. Staff

Application should be made in advance.

612 (287). **Administration and Supervision of Student Teaching.** (3:3:0) A.W.S. Flandro, Callahan, Staff

614, 615, 616 (290, 291, 292). **Analysis of In-Service Problems.** (2-5:2-5:0) A.W.S. Staff

ELEMENTARY INSTRUCTION

The program outlined below will satisfy requirements for an elementary teaching certificate as well as graduation requirements for students registered in the College of Education. The phases involved in completion of these requirements should be coordinated so that the entire program functions smoothly.

1. **General Education Requirements.** The candidate for certification must meet University requirements for graduation. See "General Education Requirements" in this catalog.

2. **Academic and Professional Preparation.** The candidate for certification must complete the following program in academic and professional courses.
   a. **Required Courses.** He must complete 53 hours of designated elementary and professional education courses, which should be commenced during his sophomore year. These courses are listed below in recommended sequence:

Sophomore or Junior Year Classes

	Hours
Instruction 226. Art for Elementary School Teachers (an elective course also required)	3
Instruction 237. Music for Elementary Teachers (an elective course also required)	3
Health 361. Health Education for Teachers	3
Phys. Ed. 375. Physical Education for Primary Grade Teachers (only one required)	2
Phys. Ed. 376. Physical Education for Intermediate Grade Teachers	2
Instruction 340. Children's Literature	3
E.R.S. 305. Development and Learning (directed observation TBA). (Not to be taken before the last quarter of the sophomore year.)	6

Junior or Senior Year Classes

Administration 310. The State, The School and The Teacher	3
Instruction 345. Basic Classroom Procedures and Participation (participation, B. Y. Elementary School and public schools.)	4
Instruction 346. Curriculum and Methods in Elementary School Social Studies and Science (directed observations TBA)	4
*Instruction 447. Curriculum and Methods of Elementary School Language Arts and Arithmetic (taken with Instruction 448)	4
*Instruction 448. Student Teaching (public schools, one-half day)	6

Senior Year Classes

**Instruction 449. Student Teaching (public schools, full day for 5 weeks)	6
**Instruction 550. Principles of Curriculum and Teaching (Block Plan, see ** below)	3
**Ed. V. and P. 415. Educational Values (Block Plan, see ** below)	3

*Instruction 447 and 448 must be taken concurrently.

**These courses will be given on the Block Plan; i.e., Instruction 449 is to be taken during the first or second five weeks of the quarter, with Instruction 550, V. and P. 415, and Administration 310 to be taken the alternate five weeks of the same quarter. (Students should plan to take Music 301 during this quarter to satisfy religion requirements.)

   b. **Electives Required.** The candidate for certification must have, in addition to the courses listed above, one additional elective course (at least 2 hours) in music and one additional elective course in art. Especially recommended are Instruction 324 and 325 and Music 102, 105, 170, and 301.

c. **Minor.** Elementary instruction majors are required to have a minor of 20 hours in an approved subject, plus 10 hours in a subject related to the minor. The following minors and related fields are approved:

Minor	**Related Fields**
Art	Music, Speech
English*	Journalism, Speech, Foreign Language, Library Science
Foreign Language	Journalism, English*, Speech
Geography	Geology, History, Political Science
Geology	History, Political Science, Geography
HDFR	Sociology, Psychology
Library Science	Journalism, English*, Speech
Music	Art, Speech
Physical Education	Scouting, Health**, Recreation
Psychology	Sociology, HDFR
Recreation	Scouting, Health**, Physical Education
Scouting	Recreation, Physical Education, Health**
Sociology	Psychology, HDFR
Specific Education (Exceptional Child)	Psychology, Speech
Speech Education	Music, Art, Psychology, Special Education

Certain subjects may be used in a split-minor combination, totaling 30 hours. The following combinations are approved:

Geology-Geography
History-Geography
HDFR-Sociology (or Psychology)
Music-Art
Physics-Geology (or Geography)
Political Science-History (or Geography)
Scouting-Recreation (or Health**)
Sociology-Psychology
Speech Education-Special Education

*English 111, 112, 113 may not be included in total hours required (except by seniors graduating in 1957).

**Health 130 may not be included in total hours required.

3. **Additional Courses Recommended.** The following courses are recommended as electives to more fully prepare the candidate in elementary instruction.

	Hours
Instruction 422. Early Childhood Education (required for kindergarten certification	3
Instruction 433. Construction and Use of Teaching Materials	2
Instruction 324. Arts and Crafts for Elementary Teachers	2
Instruction 325. Arts and Crafts for Early Childhood	2
Instruction 338. Manuscript Writing for Elementary Teachers (especially recommended for primary grade teachers)	3
Music 301. Sacred Music (should be taken same quarter as Instruction 449 to satisfy religion requirements)	2
Instruction 305. Audio-Visual Education (required for California certification)	3
E.R.S. 550. Guidance Services in Public Schools.	3
Geology 501. Introduction to Study of Minerals and Rocks	3
Geology 502. Geology for Teachers	3
HFDR 210, 211. Child Development and Observation	3, 1
HDFR 572. Professional Person and Families	3
Music 170. Vocal Workshop	1
Music 102. Fundamentals of Music.	3
Music 105. Group Piano	2
Physical Education 375. Physical Education for Primary Grade Teachers	2
Physical Education 376. Physical Education for Intermediate Grade Teachers	2

	Hours
Psychology 320. Psychology of Childhood	3
Psychology 321. Psychology of Adolescence	3
Psychology 445. Psychology of Exceptional Child (especially recommended for special education teachers)	3
Speech 366. Speech in the Elementary School	3

Note: Any deviation in the sequence or outlined program must be approved in writing and filed in the Records Office, 111 McKay.

Lower Division Courses

226 (106). Art for Elementary Teachers. (3:3:0) A.W.S. Gunn, Jenson, Wilson, Andrus, Mathews

Materials and procedures for stimulating and guiding children in various phases of art in the elementary school.

237 (107). Music for Elementary Teachers. (3:3:0) A.W.S. Prerequisite: Music 102 or the equivalent. Groesbeck

Materials and procedures for stimulating and guiding children in music experiences.

Upper Division Courses

324 (104). Arts and Crafts for Elementary Teachers. (2:4:0) A.W.S. Alder, Staff

Handicrafts for teachers of children in elementary schools.

325 (105). Arts and Crafts for Early Childhood. (2:4:0) A.W.S. Alder, Staff

Handicrafts for teachers of children in kindergarten and first grade.

338 (108). Manuscript Writing for Elementary Teachers. (2:4:0) A.W.S. Daines, Rogers, Bennett

A course designed to develop teachers' skills in manuscript writing, construction of charts, and teaching children to write.

340 (110). Children's Literature. (3:3:0) A.W.S. Hammond, Bennett, Thorne

Evaluation of significant books, past and present, that meet children's needs.

345 (115). Basic Classroom Procedures and Participation. (4:3:4) A.W.S. Prerequisite: E.R.S. 305. Berryessa, Maeser, Daines, Bennett, Gagon

Organizing the classroom, pupil accounting, grouping, programming, location and use of teaching materials. Students will be assigned as assistants to teachers in the laboratory or public schools four hours per week.

346 (116). Curriculum and Methods in Elementary School Social Studies and Science. (4:4:2) A.W.S. Prerequisite: Instruction 345. Berryessa, Candland, Daines, Gagon, Maeser

Directed observation TBA.

422 (102). Early Childhood Education Curriculum. (3-5:3-5:0) A.S. Prerequisite: Instruction 345. Campbell, Bennett, Candland, Staff

Principal attention given to kindergarten and first grade. Recommended for HDFR majors. Students registered in elementary instruction should take sections of this course for which three quarter hours of credit are given. Students registered in HDFR must take sections of this course for which five quarter hours of credit are given.

433 (New). Construction and Use of Teaching Materials. (2:4:0) A.WS. Gagon, Memmott, Staff

Construction of chart holders, flannel boards, terrariums and other items used in teaching elementary schools.

447 (117). Curriculum and Methods of Elementary School Language Arts and Arithmetic. (4:4:2) A.W.S. Prerequisite: Instruction 346. Brown, Williams, Berryessa, Rogers, Bennett

To be taken concurrently with Instruction 448, Student Teaching. Seminar on student teaching problems to be held one hour weekly. Laboratory fee: $15.00.

448 (118). **Elementary Student Teaching.** (6:0:20) A.W.S.) Prerequisite: Instruction 345. To be taken concurrently with Instruction 447.
Eastmond, Campbell, Staff

For seniors, third quarter juniors or graduate students. A full half-day must be reserved for assignment in the public schools. Laboratory fee: $15.00.

449 (119). **Field Student Teaching.** (6:0:35-40) A.W.S. Prerequisite: Instruction 448. Eastmond, Campbell, Staff

Students will spend a five-week block in a full-day teaching situation in the public schools. This may be either first or last half of the quarter. Remaining half quarter will be spent in required "block" classes as listed in recommended sequence. Laboratory fee. $15:00.

Advanced Undergraduate or Graduate Courses

529 (109). **Directed Observation in Elementary Schools.** (3:2:6) A.W.S.
Candland, Maeser, Staff

For experienced teachers or secondary majors who wish to obtain an elementary certificate.

534 (114). **Overview of Elementary Instruction.** (5:5:2) A.W.S. (Not for Elementary Instruction Majors.) Maeser, Staff

Designed for secondary teachers and speech majors who wish to obtain an elementary certificate. Also recommended as a refresher for teachers in-service.

Graduate Courses

622 (202). **Advanced Study in Early Childhood Education.** (3:3:0) (Arr.)
Campbell, Candland

623 (213). **Science in the Elementary School.** (3:3:0) S. Babcock, Berryessa, Staff

624 (204). **Arts and Crafts for Elementary Teachers.** (2:2:2) (Arr.) Andrus

626 (203). **Arts and Crafts for the Handicapped.** (2:2:2) W. Wilson, Staff

631 (201). **Curriculum Building in the Elementary School.** (3:3:0) W. Maeser, Campbell, Candland, Staff

633 (205). **Creative Arts in the Elementary School.** (2:2:2) A. Andrus

635 (215). **Social Studies in the Elementary School.** (3:3:0) A. Campbell, Candland, Maeser

641 (211). **Language Arts in the Elementary School.** (3:3:0) W. Campbell, Candland, Maeser, Staff

642 (212). **Reading in the Elementary School.** (3:3:0) W. Candland, Maeser, Staff

644 (214). **Arithmetic in the Elementary School.** (3:3:0) W. Babcock, Maeser

SECONDARY INSTRUCTION

The College of Education offers professional courses leading to secondary certification. Students desiring certification in this area must complete course requirements in the following areas:

1. **General Education** Examine pages 75 through 83 for an explanation of these requirements.
2. **An approved teaching major and minor, or composite major.** See pages 108 through 113.

3. **Professional Education.** The following required courses complete the requirement for a minimum of 33 hours of professional education. For course prerequisites and sequence check course descriptions.

	Hours
Health 361. Health Education for Teachers.	3
E.R.S. 305. Development and Learning.	6
Instruction 377. Basic Classroom Procedures.	4
Instruction 478. Unit Planning and Teaching.	4
Instruction 479. Secondary Student Teaching.	7
Administration 310. The State, the School, and the Teacher.	3
V. and P. 415. Educational Values.	3
Instruction 550. Principles of Curriculum and Teaching.	3

Upper Division Courses

354 (New). Methods and Materials of Instruction in Secondary Schools. (5:5:0) A.W.S. Staff

A course designed to meet certificate renewal needs of secondary teachers in Idaho.

377 (120). Basic Classroom Procedures. (4:4:3) A.W.S. Prerequisite: E.R.S. 305. Lectures, demonstrations, and participation in non-instructional activities at a high school. Callahan, Crnkovic, Bauer, Flandro, Staff

(A laboratory fee of $15.00 is charged.)

478 (138). Unit Planning and Teaching. (4:3:5) A.W.S. Prerequisite: Instruction 377. Callahan, Crnkovic, Bauer, Flandro

Lectures, demonstrations and limited participation in instructional activities. (A laboratory fee of $15.00 is charged.)

479 (139). Secondary Student Teaching. (7:1:20) A.W.S. Prerequisite: Instruction 478 or arrangement to take 478 and 479 according to block plan A. (See description given below.) Callahan, Crnkovic, Bauer, Flandro, Staff

(A laboratory fee of $15.00 is charged.)

Requirements for this course may be met by following either Plan A, B, or C as indicated below. Determination of which plan is to be followed must be made in consultation with an adviser from secondary education. An application for a specific assignment must be filed with the director of student teaching (secondary) three months in advance of receiving an assignment. Student teachers are expected to do much responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school, as well as participate in seminars and conferences with their supervisor. During this quarter students must limit their total load to 16 hours.

Plan A. Recommended for mature students who can arrange their academic program so that they can leave the campus and take Instruction 478 and 479 and Administration 310 concurrently in a student teaching center outside of Utah County.

Plan B. A full day of off-campus student teaching, away from Utah County, for a period of five weeks to be followed by five weeks of on-campus study during which the student will take such courses as Administration 310, Educational Values and Programs 415, and Instruction 550.

Plan C. Supervised teaching in a Utah County public secondary school for a full quarter on a half-day (four hours a day) basis.

Graduate Courses

656 (220). High School Curriculum. (3:3:0) A. Callahan, Shirts, Flandro, Staff

659 (221). Senior High School Curriculum Workshop. (3:3:0) S. Bauer, Flandro, Callahan, Shirts, Staff

661 (222). **Junior High School Curriculum Workshop.** (3:3:0) W. Staff

663 (225). **Directing Out-of-Class Activities in Secondary Schools.** (3:3:0) S. Callahan, Flandro, Shirts

666 (223). **Teaching Home Economics in the Secondary Schools.** (3:3:0) W. Staff

667 (226). **Teaching of Reading in the Secondary Schools.** (3:3:0) W. Staff

668 (227). **Teaching Art in Secondary Schools.** (3.3.0) W. Staff

669 (228). **Teaching English in Secondary Schools.** (3:3:0) S. Staff

670 (229). **Teaching Mathematics and Science in Secondary Schools.** (3:3:0) W. Staff

671 (230). **Teaching Music in Secondary Schools.** (3:3:0) S. Martino

672 (231). **Teaching Social Studies in Secondary Schools.** (3:3:0) S. Staff

673 (232). **Teaching Speech in Secondary Schools.** (3:3:0) W. Staff

674 (233). **Methods of Teaching Journalism in Secondary Schools.** (3:3:0 S. Carle

COLLEGE INSTRUCTION

Graduate Courses

682 (241). **The Junior College.** (5:5:0) A. Browne

684 (242). **Methods of Higher Education Instruction.** (4:4:2) W. Browne

685 (243). **Directed Teaching in Higher Education.** (6:1:5) Prerequisite: Instruction 684. Browne

SPECIAL STUDY

Upper Division Courses

490, 491 (196, 197). **Seminar.** (1-3:1-3:0 ea.) A.W.S. Staff

493, 494 (194, 195). **Independent Reading.** (1-3:1-3:0 ea.) A.W.S. Staff

496, 497 (198, 199). **Independent Research.** (1-3:1-3:0 ea.) A.W.S. Staff

Graduate Courses

690, 691 (296, 297). **Seminar.** (1-3:1-3:0 ea.) A.W.S. Staff

693, 694 (294, 295). **Independent Reading.** (1-3:1-3:0 ea.) A.W.S. Staff

696, 697 (298, 299). **Independent Research.** (1-3:1-3:0 ea.) A.W.S. Staff

698 (301). **Field Project.** (Arr.) Staff

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

These courses also count in Education: Instruction:

Health Education 310. Driver Education and Training for High School Teachers. (2:2:1)

Health Education 325. Materials and Methods in Safety Education. (2:2:0)

Health Education 361. Health Education for Teachers. (3:3:0)

Library Science 350. Classification. (3:3:0)

Library Science 351. Cataloging. (3:2:2)

Library Science 363. Library Science for Teachers and Administrators. (3:3:0)

Library Science 370. Introduction to Bibliography. (3:3:0)

Library Science 563. Modern Library Practices. (3:3:0)

Library Science 565. Selection and Use of Library Materials for the Elementary School. (3:3:0)

Library Science 567. Selection and Use of Materials for the Secondary School. (3:3:0)

Library Science 571. Bibliography of the Sciences. (3:3:0)

Library Science 572. Bibliography of the Humanities. (3:3:0

Library Science 573. Bibliography of the Social Sciences. (3:3:0)

Library Science 590. History of Books and Development of Libraries in Our Civilization. (3:3:0)

Library Science 650. Problems in Acquisition and Organization of Library Materials. (3:3:0)

Recreation 331. Theory of Play. (3:3:0)

Educational Administration

Professors: Burrup (chairman, 128 McK), Clarke, Moffitt, Morrill, Woolf.
Associate Professors: Barnett, Eastmond.

Upper Division Course

310 (100). **The State, the School, and the Teacher.** (3:3:0) A.W.S. Staff
Development of the public school system; relationship of the school to the community school organization and administration with special emphasis on the Utah system; legal relationship and responsibility of federal, state, and local agencies to education.

Graduate Courses

Prerequisite to all courses: 33 hours of education.

600 (205). Organization and Administration of Public Schools. (3:3:0) A.W.S. Morrill, Woolf

610 (200). Public School Finance. (3:3:0) A.W.S. Burrup, Barnett

619 (209). Personnel Problems of the School Staff. (3:3:0) A. Barnett

626 (226). School-Community Relations. (3:3:0) A. Moffitt, Morrill

631 (211). The Elementary School Principalship. (3:3:0) S. Morrill

644 (214). Work of the Secondary School Principal. (3:3:0) W. Woolf, Morrill

651 (231). Administration of Auxiliary Services. (3:3:0) W. Barnett

654 (234). Administration of Pupil Personnel. (3:3:0) S. Burrup

665 (225). Supervision of Education. (3:3:0) A.W.S. Clarke, Burrup

673 (203). School Law. (3:3:0) W. Burrup, Barnett

690, 691 (296, 297). Seminar. (1-3:1-3:0 ea.) A.W.S. Morrill, Eastmond

693, 694 (294, 295). Independent Readings. (1-3:3-9:0 ea.) A.W.S. Staff

696, 697 (298, 299). Independent Reseaarch. (1-3:3-9:0 ea.) A.W.S. Staff

698 (301). Field Project. (Arr.) Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

700 (232). The Organization of Schools. (2:2:0) W. Morrill, Eastmond

712 (212). The Junior High School. (3:3:0) A. Woolf, Clarke

723 (213). The Senior High School. (3:3:0) W. Clarke, Woolf

730 (230). Business Administration of the Public Schools. (2-3:2-3:0) S. Burrup, Barnett

738 (238). Workshop Procedures and the Group Process in Educational Administration. (2:2:0) W. Morrill, Moffitt

748 (218). College and University Organization and Administration. (3:3:0) (Not given 1957-58) Staff

749 (239). Evaluation and Accreditation of Educational Institutions. (3:3:0) S. Woolf, Morrill

750 (201). Public School Building Programs. (3:3:0) A.S. Morrill, Barnett

786 (236). Problems of Taxation and Financial Support of Public Institutions. (3:3:0) (Not given 1957-58) Staff

These courses also count in Educational Administration:

Ed. Res. and Services 540. Statistical Methods. (3:3:0)

Ed. Res. and Services 641. Educational Research and Thesis Writing. (3:3:0)

Educational Research and Services

Professors: Egbert (chairman, 254 McKay), Lloyd, Reid, Romney, Woodruff
Associate Professors: S. G. Clark, Downing.
Assistant Professors: J. M. Harris, V. H. Jensen, Krider*, Parker, Wright.
Instructors: Grimes, Orrock, Wilson.

The offerings and programs in this department are of two kinds: (1) Those which provide teachers and special personnel with the necessary understandings and insights into human behavior and learning, which they will need in working with normal and with exceptional students, and (2) those which promote research and extend educational services to the University and the public schools. In this latter instance the departmental graduate programs in personnel and guidance and in special education are of particular importance to the schools.

This year a program for training of school psychologists is being introduced in collaboration with the Department of Psychology. This is a master's degree program, but interested students should commence the foundation courses early in their undergraduate years.

Lower Division Courses

102 (45). College and Life Adjustment. (3:3:0) A.W.S. Orrock
Major emphasis is given to personal and social development with consideration also to wise vocational and educational planning.

Upper Division Courses

304 (100). Educational Psychology. (3:3:0) A.S. Prerequisite: H.D.F.R. 40. Romney
Enrollment limited to homemaking education majors except for others who may receive special permission from the instructor. Psychological facts and principles related to the teaching-learning situation.

305 (101). Development and Learning. (6:5:1) A.W.S. Egbert, Downing, Harris, Grimes, Woolf
Designed to give the student increased understanding of development in childhood and adolescence of both normal and deviate children and of psychological principles related to the teaching-learning situation.

490, 491 (196, 197). Seminar. (1:1:0 ea.) A.W.S. Staff

493, 494 (196, 197). Independent Readings. (1:3:0 ea.) A.W.S. Staff

496, 497 (198, 199). Independent Research. (1:3:0 ea.) A.W.S. Staff

Advanced Undergraduate or Graduate Courses

510 (130). Tests and Measurements for the Classroom Teacher. (3:3:0) W. Harris, Grimes
Emphasizes techniques for construction and use of classroom tests as measuring and teaching devices; consideration also given to standardized tests and evaluational techniques other than testing.

520 (New). Group Guidance Techniques for Teachers. (3:3:0) A.S. Downing
Acquaints teachers with principles of group dynamics and gives increased understanding of application of these principles in classroom situation.

540 (115). Statistical Methods. (3:3:0) A. Egbert
Graphic and tabular presentation, measures of central tendency, variability, probability, and linear correlation. This course is required but may

not be counted as part of the 45 hours for the master's degree by people majoring in this department.

541 (215). **Advanced Statistics.** (3:3:0) S. Prerequisite: E.R.S. 540. Egbert
Chi Square, analysis of variance, testing hypothesis.

550 (145). **Guidance Services in Public Schools.** (3:3:0) A.W.S. Downing, Orrock
Introduction to principles and practices of the guidance program in public schools. Designed for prospective teachers at both elementary and secondary levels. This course is required but may not be counted as part of the 45 hours for the master's degree by people majoring in this department.

560 (New). **Introduction to Education of Exceptional Children.** (3:3:0) A.W.S. Wilson
A general course designed to acquaint the student with the causes, recognition, incidence and characteristics of all types of exceptional children. Designed to meet needs of both classroom teacher and person going into special education.

Graduate Courses

601 (201). **Advanced Educational Psychology: Problems of Learning in the Elementary School.** (2:2:0) W. Prerequisite: E.R.S. 305. Harris, Egbert

602 (202). **Advanced Educational Psychology: Problems of Learning in the Secondary Schools.** (2:2:0) S. Prerequisite: E.R.S. 305. Harris

606 (New). **Behavior Problems in the Schools.** (3:3:0) A. Prerequisite: E.R.S. 305 and 550. Grimes

610 (230). **Advanced Educational Tests and Measurements.** (3:3:0) S. Harris, Downing

611 (248). **Test Techniques in Guidance.** (3:3:0) S. Prerequisite: E.R.S. 550. Jensen

612 (New). **Diagnosis of Achievement Difficulties.** (3:3:0) A. Prerequisites: E.R.S. 610 or 611. Grimes, Harris

620 (244). **Introduction to Counseling Theory and Practice.** (3:3:0) A.W. Prerequisite: E.R.S. 550. Reid, Jensen, Wright, Downing

621 (245). **The Case Study and Diagnosis.** (3:3:0) W. Prerequisite: E.R.S. 550 and 620. Downing, Wright

622 (247). **Group Techniques for Counselors.** (3:3:0) W. Prerequisites: E.R.S. 550 and 620. Downing, Wright

624 (252). **Industrial Counseling.** (3:3:0) S. Prerequisites: E.R.S. 550, 620, 651. Staff

625 (246). **Advanced Counseling Theory.** (3:3:0) W. Prerequisites: E.R.S. 550 and 620. Reid, Downing, Wright

630 (Instr. 277). **Corrective Teaching Techniques.** (3:3:0) S. Prerequisite: E.R.S. 612 or consent of instructor. Wilson, Grimes

640 (New). **Evaluation of Educational and Psychological Literature.** (3:3:0) S. Egbert

641 (218). **Educational Research and Thesis Writing.** (2-3:2-3:0) W. Prerequisite: E.R.S. 540. Egbert

650 (249). **Guidance Workshop.** (3:3:0) (Not given this year) Prerequisite: E.R.S. 550. Staff

651 (251). **Informational Services in Guidance.** (3:3:0) A. Prerequisite: E.R.S. 550. Wright, S. G. Clark

652 (253). **Guidance Services in the Elementary School.** (3:3:0) S. Prerequisite: E.R.S. 550 and 620. Downing

653 (250). **Administration of Guidance Services.** (3:3:0) S. Prerequisite: E.R.S. 550. Downing, Reid

656 (254). **Student Personnel Services in Higher Education.** (3:3:0) S. Prerequisite: E.R.S. 550. Lloyd, S. G. Clark

660 (Instr. 280). **Education of Exceptional Children.** (3:3:0) A. Wilson

661 (Instr. 279). **Problems in the Education of Slow-Learning Children** (3:3:0) W. Prerequisite: consent of instructor. Wilson

662 (Instr. 246). **Workshop in Special Education.** (6:6:0) (Not given this year.) Prerequisite: consent of instructor. Wilson

665 (New) **Medical Aspects of Orthopedically Handicapped Children.** (3:3:0) (Not given this year.) Prerequisite: consent of instructor. Staff

666 (New). **Problems in the Education of Orthopedically Handicapped Children.** (3:3:0) S. Prerequisite: E.R.S. 660. Wilson

667 (Instr. 276). **Problems in the Education of Mentally Retarded Children.** (3:3:0) (Not given this year.) Staff

670 (256). **Internship in Testing.** (3:1:6) S. Prerequisite: E.R.S. 550 and 611. Jensen

672 (257). **Internship in Counseling.** (3:1:6) W.S. Prerequisite: E.R.S. 550, 611, 620, and 670. Downing, Jensen, Wright

674 (New). **Internship in Special Education.** (6:1:15) (Not given this year.) Prerequisite: consent of the instructor. Wilson

690, 691, 692 (295, 296, 297). **Seminar.** (1:1:0 ea.) A.W.S. Staff

693, 694, 695 (292, 293, 294). **Independent Readings.** (1:3:0 ea.) A.W.S. Staff

696, 697 (298, 299). **Independent Research.** (1:3:0 ea.) A.W.S. Staff

698 (301). **Field Project for Master's Degree.** (Arr.) Staff

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

Educational Values and Programs

Professor: Woodruff
Associate Professor: Oakes (chairman, 203 McK)
Instructor: Alley

This department is devoted to a critical examination of society for the purpose of determining the general values upon which our educational system should be founded. The approach is historical, political, sociological, religious, and philosophical. The courses also deal with the professional nature of education and educators and the roles of non-educators and educators in public education.

The courses are offered in four divisions: Philosophy of Education, History of Education, The School in the Social Order, and Educational Objectives and Programs. Except for one service course, a seminar and readings and research courses, all courses are at the graduate level.

Upper Division Courses

415 (100). Educational Values. (3:3:0) A.W.S. Prerequisites: Instruction 449 or 479, except that they may be taken in the same quarter as V. and P. 415 on the "block" plan. Oakes, Alley

Identification and analysis of fundamental American values and of values systems, upon which American educational objectives should be based. Problems and concepts encountered in earlier courses in the educational sequence are examined in the light of the values studied.

490, 491 (196, 197). Seminar. (1-3:1-3:0 ea.) A.W.S. Staff

493, 494 (194, 195). Independent Readings. (1-3:3-9:0 ea.) A.W.S. Staff

496, 497 (198, 199). Independent Research. (1-3:3-9:0 ea.) A.W.S. Staff

Philosophy of Education

605 (200). Educational Thinkers and Contemporary Issues. (3:3:0) A.W.S. Oakes, Alley

History of Education

622 (215). History of Education in America. (3:3:0) W. Oakes, Alley

624 (216). History of Educational Thought. (3:3:0) A. Oakes, Alley

630 (217. Comparative Education. (3:3:0) W. Oakes, Alley

The School in the Social Order

642 (230). Education in the Social Order. (3:3:0) S. Oakes, Alley

Educational Objectives and Programs

662 (245). Principles of Program Planning. (3:3:0) S. Woodruff

General Courses

690, 691 (296, 297). Seminar. (1-3:1-3:0 ea.) A.W.S. Staff

693, 694 (294, 295). Independent Readings. (1-3:3-9:0 ea.) A.W.S. Staff

696, 697 (298, 299). Independent Research. (1-3:3-9:0 ea.) A.W.S. Staff

698 (301). Field Project. (Arr.) A.W.S. Staff

699 (300). Thesis. (Arr.) A.W.S.

Electrical Engineering Science

Professors: Jonsson (chairman, 175 ELB), Bartholomew, H. Fletcher.
Associate Professor: D. Monson.

This department offers a five-year program leading to the degree of Bachelor of Engineering Science in Electrical Engineering. An acoustical option is offered as an alternate course. The student completing the prescribed course of study will receive comprehensive training in electrical engineering which includes communications, electronics, energy conversion, systems and circuits, measurements and automatic control in addition to the general and religious education given to all undergraduate students at Brigham Young University.

Entrance Requirements

In addition to having fulfilled the general entrance requirements of the University described on page 71, a student entering this department should have completed 3 units of English and 3 units of high school mathematics which must include elementary algebra, intermediate algebra, and plane geometry.

Students who have not met these requirements must take extra remedial courses as prescribed by the chairman of this department before, or concurrently with, the regular outlined course of studies.

Requirements for Major

To obtain a degree in electrical engineering the student must complete 245 credit hours as described below including the same general educational requirements which apply to the B.S. degree conferred by the Brigham Young University. The following abbreviations are used: Ch. E., for Chemical Engineering; C.E. for Civil Engineering; E.E., for Electrical Engineering; G.E., for Geological Engineering; and M.E., for Mechanical Engineering.

Grade Requirements

A student must have received an average grade of "C" or better in calculus and physics before being admitted as a regular third-year engineering student. A student who has not obtained this average but feels that he has the qualifications for undertaking engineering work may petition this department for special consideration. If he is admitted, it will be on a probationary status subject to a continual review. If his work subsequently proves unsatisfactory, he will be dropped from the department.

A cumulative average grade of "C" must be maintained in all advanced mathematics and engineering subjects; otherwise the student is placed on a probationary status in the department.

General Education Group Requirements

The General Education Requirements are listed on page 75 together with elective subjects. The following information on group requirements is directed particularly to electrical engineering science students:
Group I: Automatically filled by following the outline for any engineering field listed below.

	Hours
Group II: Biological Science	8
No specific recommendations are given.	
Group III: Social Science	15
The following are particularly recommended:	

	Hours
Economics 111, Economic Principles	5
History 170, American Heritage (Required)	5
Psychology 111, General Psychology	5
Group IV: Humanities and Aesthetics	15

Any course listed in the general education requirements is acceptable. The engineering student will observe that allowance has been made for only 69 hours of general group subjects within the formal program. This implies that the student must usually take advantage of the possibility of cross-referencing six hours of credit between the humanities and aesthetics group and the religion group requirement.

Group V: Religion	24

Any course listed in the general education requirements is acceptable.

Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the physical education requirements outlined on page 75. In addition they may substitute three hours of air science for any three hours of the general education requirements.

Suggested Sequence of Courses for Majors

First Year

(Common to all engineering science courses)

	A	W	S
Chemistry 111, 112*	5	5	
Mathematics 111, 112, 231	5	5	5
English 111, 112, 113 or 115, 116	3	3	3
Religion	2	2	2
Physical Education	1	1	1
Health Education		1	
Group Elective			5
M.E. 100	1		
Total Hours	17	17	16

*Students not having the proper entrance requirements in mathematics may schedule Chemistry 111 and 112 during the Winter and Spring Quarters. Chemical and geological engineers will normally schedule Chemistry 113 during Spring Quarter.

Second Year

(Common to all engineering science courses)

	A	W	S
Mathematics 232, 233, 234	4	4	4
Physics 211, 212, 213	5	5	5
Religion	2	2	2
C.E. 201, 202, 203*	2	3	3
Group Electives*	5	3	3
Total Hours	18	17	17

*Ch.E. majors will substitute Chemistry 221, 222 for C.E. 201, 202, 203, and the group electives.

Third Year

	A	W	S
Mathematics 315, 316, 317	3	3	3
E.E. 311, 312, 313	3	3	3
E.E. 321, 322		3	3
Geology 110			4
Ch.E. 378, 379		3	3
Grop Electives*	8	2	
Religion	2	2	
Total Hours	16	16	16

*Cross reference with Religion.

Fourth Year

	A	W	S
E.E. 460, 461	3		4
E.E. 431, 432, 433	4	4	4
E.E. 441, 442, 443	3	3	3
E.E. 441	2		
C.E. 301, 302, 303	5	5	5
Religion		2	
Group Elective*		2	
Total Hours	17	16	16

*Cross reference 2 hours with Religion.

Fifth Year

(An acoustical option is listed below.)

	A	W	S
M.E. 327, 367, 410	4	1	4
E.E. 462, 463	4	4	
E.E. 467, 468	2	2	
E.E. 591, 592, 593	1	1	1
Restricted Electives	4	3	5
Group Electives		5	5
Total Hours	15	16	15

Restricted electives which may be taken by approval of the department head include the following courses: Economics 461; Electrical Engineering 511, 531, 537, 538, 541, 550, 567, 568, 587, 594, 595, 596; Finance and Banking 348; Industrial Management 340; Physics 351, 352, 353, 661, 662, 663; and Psychology 164, 165, 167.

Fifth Year Acoustical Option

The student will substitute four hours of general education for E.E. 433 of the fourth year in electrical engineering and in addition follow the course prescribed below:

	A	W	S
E.E. 581, 592, 583	3	3	3
E.E. 462, 463	4	4	
E.E. 467, 468	2	2	
E.E. 591, 592, 593	1	1	1
Physics 661, 662, 663	3	3	3

	A	W	S
Physics 664, 665, 666	2	2	2
Restricted Electives			1
Group Electives			6
Total Hours	15	15	16

Restricted electives which may be taken by approval of the department head include the following courses: Electrical Engineering 433, 511, 537, 538, 541, 567, 568, 584, 585, 586, 594, 595, 596; Mechanical Engineering 327, 410.

Upper Division Courses

301, 302, 303 (101, 102, 103). Elements of Electrical Engineering. (4:3:3 ea.) A.W.S. Prerequisites: Physics 211, 212, 213. Staff

Designed for students not majoring in electrical engineering. Study of direct and alternating current circuit theory and machinery, and electronics.

311, 312, 313 (151, 152, 153). Alternating-Current Circuits. (3:3:0 ea.) A.W.S. Prerequisites: Physics 213, Mathematics 234, and Mathematics 315, 316, 317 concurrently. Staff

Steady-state alternating current circuits; vectors; complex algebra; series and parallel impedance networks; resonant circuits; non-sinusoidal waves; Fourier analysis. Series-parallel networks; coupled circuits; polyphase circuits; vector loci; network theorems; magnetics; elementary filters.

321, 322 (131, 132). Electrical Measurements. (3:2:3 ea.) W.S. Prerequisites: Physics 211, 212, 213 and E.E. 312, 313 to be taken concurrently. Staff

Study of the theory, use, limitations, accuracy, and calibration of electrical instruments including bridges, recorders, indicators, and standard electrical meters.

411 (145). Electro-Mechanical Transients. (2:2:0) A. Prerequisites: Mathematics 317, E.E. 313, C.E. 301 concurrently. Staff

Application of classical, operator, and LaPlace transform methods in determining behavior of electrical and electro-mechanical elements under transient conditions.

431 (111). Direct-Current Machinery. (4:3:3) A. Prerequisite: E.E. 313. Staff

Study of direct-current motors, generators, power distribution, applications.

432, 433 (133, 115). Alternating-Current Machinery. (4:3:3 ea.) W.S. Prerequisite: E.E. 313. Staff

Single and polyphase transformers; alternating-current motors and generators; applications.

441, 442, 443 (161, 162, 163). Electronics. (3:2:3 ea.) A.W.S. Prerequisite: E.E. 313. Staff

Study of electron dynamics; vacuum tube characteristics, rectifiers, amplifiers, oscillators, transistors, and special purpose tubes.

460 (141). Electro-Magnetic Fields. (3:3:0) A. Prerequisites: E.E. 313, Mathematics 317. Staff

Study of static and dynamic electric and magnetic fields; both classical and vector mathematics will be employed.

461 (181). Transmission Lines and Filters. (4:4:0) S. Prerequisite: E.E. 443 concurrently. Staff
The general transmission line; transmission networks; filter theory.

462 (182). Communication Systems. (4:4:0) A. Prerequisites: E.E. 443, 461. Staff
Circuits and systems used in television, radar, and radio engineering.

463 (183). U.H.F. Technique. (4.4.0) W. Prerequisite: E.E. 462. Staff
Lines, wave guides, antennas, wave propagation, generators.

467, 468 (184, 185). Communications Laboratory. (2:0:6 ea.) A.W. Parallels E.E. 462, 463. Staff
Devoted to building and testing circuits studied and designed in parallel theory courses.

Advanced Undergraduate or Gradaute Courses

511 (275). Servomechanisms. (3:3:0) W. Prerequisites: E.E. 313, 411, 443; Mathematics 317. Staff
Theory and application of electrical and electro-mechanical automatic control systems.

531 (221). Power Systems. (3:3:0) A. Prerequisites: E.E. 433, 461. Staff
Study of power distribution and system protection.

537, 538 (192, 193). Advanced Laboratory. (1:0:3 ea.) S. Prerequisite: E.E. 463. Staff

Each of these courses constitutes a block of ten required experiments in the area of machinery control systems. Machinery characteristics and power distribution methods. The student may register for either course or both courses simultaneously.

541 (277). Industrial Electronics. (4:3:3) S. Prerequisite: E.E. 443 Staff

Applications of electronics to industrial use. Rectification; electronic control; electronic measurements; dielectric heating; welding; etc.

550 (147). Illumination. (2:2:0) A. Prerequisite: E.E. 313. Staff

Study of the principles and design of artificial illumination for various applications; lamp characteristics; measurements; costs.

567, 568 (190, 191). Advanced Laboratory. (1:0:3 ea.) S. Prerequisite: E.E. 463. Staff

Each of these courses constitutes a block of ten required experiments in the area of U.H.F. Techniques, electronic circuits, communication systems, pulse forming networks, transmission lines, and filters. The student may register for either course or both courses simultaneously.

581, 582, 583 (168, 169, 170). Psycho-Acoustics. (3:3:0 ea.) AW.S. Prerequisite: E.E. 443. Staff

Study of speech and hearing from a communication engineering viewpoint. Synamical analysis of speech and hearing processes will be developed. Known experimental facts about speech and hearing will be systematically studied and compared with calculated results. Methods of calculating and measuring articulation index of talker-listener pair when using any specified type of a communication system.

584, 585, 586 (267, 268, 269). Advanced Musical Acoustics. (2:2:0 ea.) A.W.S. Prerequisites: Physics 661, 662, 663. Staff

Technical study of acoustical behavior of different musical instruments, consideration of sound power output of single instruments and ensembles, stereophonic reproduction of music, possibilities of electronic musical instruments.

587 (167). **Architectural Acoustics.** (5:5:0) S. Prerequisites: Physics 211, 212, 213. Staff

Fundamental behavior of sound in rooms. Effects of shape and size upon perception of speech and music. Proper use of public address and sound re-inforcing systems, sound absorption and insulation properties of different kinds of room walls. Kinds and amounts of sound absorption materials to use in sound treatments of rooms and auditoriums.

591, 592, 593 (New). **Seminar and Field Trips.** (1:0:3 ea.) A.W.S. Prerequisite: fifth-year electrical engineer standing. Staff

Student and faculty presentation of special topics and subjects of current interest. Visits to Utah industries of varied types of electrical engineering applications.

594, 595, 596. (New). **Special Problems.** (Arr.) Staff

Registration by permission.

English

Professors: Rice (chairman 241 McK), Barker, Christensen, Jacobs, Young.

Associate Professors: Britsch, Carroll (emeritus), Cheney, B. B. Clark, D. B. Farnsworth, E. L. Hart, C. F. Larson, S. Monson, Spears, O. B. Tanner.

Assistant Professors: M. J. Clark, Craig, McKendrick, Olson, Rich, Smart, Thomas, Thomson, West.

Instructors: Alder, Bailey, Burmingham, Cox, Dunn (emeritus), Esplin, D. L. Evans, Grass, Horton, Lythgoe, Madsen, Morrell, Statham, Waterstradt, Wood.

Freshman English

Placement Test. All freshmen are required to take an English placement test at the time of registration.

Freshman Composition. To satisfy the university requirement for freshman composition, all students must complete one of the following sequences: English 111 (or 110), 112, 113, or English 115, 116. Assignment is made on the basis of performance in the placement test. Students who demonstrate a need for remedial work take English 110, 112, 113; students who demonstrate satisfactory ability take English 111, 112, 113; students who demonstrate exceptional ability take English 115, 116; students who demonstrate ability below that expected of college freshmen are required to take English 10 (special fee $10.00) and to pass satisfactorily another placement test before registration in freshman composition.

Scope of Instruction

The English Department offers courses in writing, literature, and the English language as follows: writing, remedial and methodology courses; grammar, word study, and language courses; novel courses; drama courses; comparative and world literature courses; American literature courses; combined American and English literature courses; English literature courses; and single author courses.

Requirements for an English Major

The department requirement for a major is that a student complete at least forty-five hours in English beyond freshman composition. The following program is prescribed:

	Hours
A. 251—Fundamentals of English for Majors and Minors	5
B. 562—Major Figures of the American Renaissance	5
C. One of the following period courses in American Literature 561—American Literature to the Civil War 563—American Literature since the Civil War	5
D. English period courses or authorized substitutes	16-20

A major is expected to complete classes in four of the five periods of English literature. He may fulfill this requirement by taking four of the period courses (courses 271-275) or, with the permission of the department chairman or the student's departmental adviser, two or three of the period courses with substitutes as indicated below to bring the total of periods studied to four.

1. 571 or 581; 2. 572, 541 or 582; 3. 573, 542 or 553; 4. 574 or 554; 5. 575 or 332.

E. 382—Shakespeare	5

	Hours
F. Comparative or world literature, chosen from the list below 241, 242, 243—Masters of the Drama, Ancient to Modern 552, 553, 554—The Renaissance, Neo-Classicism, and Romanticism in European Literature 356, 357, 358—World Classics 345—The Spirit of Tragedy in Literature	5
G. Grammar, history of the English language, or literary criticism This requirement, especially for those majors who plan to teach English in high school or college, will ordinarily be met by taking English grammar, although either of the other courses listed below may be substituted with the approval of the department chairman or the student's departmental adviser: English 221, 521, 550.	5
H. 490—Senior Seminar for English Majors Courses 552, 553, and 554 may be counted as fulfilling requirements D. and F. Under no circumstances, however, may a student graduate as an English major with fewer than forty-five hours of English beyond freshman composition.	2

In addition to the university requirements for graduation and the departmental requirements for a major, each English major is expected to complete twenty-four hours in one foreign language.

Requirements for a Teaching Major in English

The requirements for the teaching major in English and for the regular majors are the same except that the foreign language requirements may be reduced or waived by the department to meet the special needs of some prospective teachers. Such reductions or waivers would necessitate, of course, the substitution of the Bachelor of Science degree for the degree of Bachelor of Arts.

English is one of the subjects comprising the composite major in language arts designed for prospective teachers.

Recommendations for a Teaching Major in English

Following is the recommended minimum program beyond freshman composition for a student minoring in English and planning to teach English in high school:

	Hours
A. 251—Fundamentals of English for Majors and Minors	5
B. 221—English Grammar	5
C. 282 or 382—Shakespeare	3 or 5
D. Upper-division course(s) in American literature 562—Major Figures of the American Renaissance recommended as likely to be most useful.	5
E. Upper-division course(s) in English literature 574—The Romantic Period or 575—The Victorian Period recommended as likely to be most useful.	5

Graduate Work in English

A graduate student may major in either American or English literature; he may minor in a subject outside the English Department or in English literature, American literature, or language. It is assumed that anyone granted a Master of Arts degree in English will be well-grounded in the entire field of English and also well-trained in his graduate major and minor.

Each student should check the departmental requirements for an undergraduate major in English and make up the deficiencies in his undergraduate program insofar as possible. Among the forty-five hours required for a Master of Arts degree, each student must take the following courses:

	Hours
A. 615—Bibliography and Methods of Research	2
B. 525—Old English	5

The following courses must also be included if the student did not have them as an undergraduate:

A. 521—The History of the English Language	5
B. 550—The Criticism and Appreciation of Literature	5

General Education

A student filling his general education requirement in literature under the humanities and aesthetics requirement may take any literature course for which he has the proper background, but the Department especially recommends the following courses as being particularly suitable for general education: 241, 242, 243, 250, 252, 253, 254, 261, 262, 263, 271, 272, 273, 282, 350, 356, 357, 358, 359.

Remedial Courses

10 (A). Preparatory English. (0:3:0) A.W.S. Staff
Drill in essentials of English for all students not prepared for English 110 or 111. Students who complete course must satisfactorily pass placement test before registering for English 111. (Fee $10.00)

15 (New). Remedial English for Juniors. (0:2:0) A.W.S. Staff

20 (X). Remedial Reading. (0:5:0) A.W.S. M. Clark, Olson
Non-credit service course utilizing modern clinical methods in developing reading speed and comprehension.

99 (201). Problems in Thesis Writing. (0:2:0) A.W. Staff

105, 106, 107 (5, 6, 7). English for Foreigners. (3:5:0 ea.) A.W.S. Staff
Service course for foreign students who are learning English. (This course may not be used to apply to an English minor nor does it satisfy the freshman English requirement.)

Freshman Composition Courses

(These courses may not apply to the English minor.)

110 (1a). Composition and Reading. (3:5:0) A.W. Staff
Same course and credit as English 112, but meets two additional days a week. For students who need additional help in freshman composition.

111, 112, 113 (1, 2, 3). Composition and Reading. (3:3:0 ea.) A.W.S. Staff
Course in reading and writing designed for development of skills of effective writing, of critical awareness, of resources of the language, and of skill in reading rapidly and critically. Review of grammar, readings, weekly themes, and long library paper.

115, 116 (12, 13). Composition and Reading. (3:3:0) ea.) A.W.S. Staff
Alternate course to English 111, 112, 113 designed for students who show superior ability and training in composition. Students who receive a grade of C or lower in English 116 will be required to take English 215 to complete the general education requirement for freshman composition.

Lower Division Courses

215 (15). Expository Writing. (3:3:0) A.W.S. Prerequisites: English 111, 112, 113 or 115, 116. Staff
Basic composition course intended to develop clarity, precision, and style in factual writing.

216 (16). Technical Writing. (3:3:0). A.W.S. Prerequisites: English 111, 112, 113, or 115, 116. Staff
Composition course intended to develop accuracy and skill in writing and documenting library or laboratory research reports.

217 (17). **Business English.** (3:3:0) A.W.S. Prerequisites: English 111, 112, 113, or 115, 116. Staff

218 (18). **Imaginative Writing.** (3:3:0) A.W.S. Prerequisites: English 111, 112, 113, or 115, 116. Larson, Cheney
Composition course intended to develop expressive skill and power through writing of short stories, poems, dramas, and/or informal essays.

221 (21). **English Grammar.** (5:5:0) A.W.S. Prerequisites: English 111, 112, 113, or 115, 116. McKendrick, Britsch, Young, West

225 (25). **Vocabulary Building.** (3:3:0) A.W.S. Young, Monson, McKendrick
Service course intended to develop an effective vocabulary through assiduous study of prefixes, suffixes, and roots.

226 (26). **Semantics.** (3:3:0) A. Thomas, McKendrick
Study of function of words in written and spoken communication.

241 (41). **Masters of the Drama, Ancient to Modern.** (3:3:0) A. (G-HA) Craig
Origin of the drama with emphasis on Greek and Roman dramatists.

242 (42). **Masters of the Drama, Ancient to Modern.** (3:3:0) W. (G-HA) Craig
Medieval, renaissance, and early modern drama, both continental and English.

243 (43). **Masters of the Drama, Ancient to Modern.** (3:3:0) S. (G-HA) Craig
Modern drama—continental, English, and American—stressing its national character and influence of earlier drama on the modern.

250 (50). **Introduction to Literature.** (4:4:0) A.W.S. (G-HA) Farnsworth, Tanner
Study of various types of literature—short story and novel, poetry, essay, biography, and drama—with a critical reading and analysis of significant examples of each type.

251 (51). **Fundamentals of English for Majors and Minors.** (5:5:0) A.W.S. Prerequisites: English 111, 112, 113, or 115, 116. Required of all English majors and recommended for English minors. B. Clark, West, Cheney
Basic course in literary appreciation and criticism, literary terminology, and writing. Should be taken in the sophomore year.

252 (52). **Introduction to Poetry.** (3:3:0) A.W.S. (G-HA) Hart, Larson, Evans
Appreciation course in poetry, emphasizing critical reading and analysis of significant poems of various types.

253 (53). **Introduction to Drama.** (3:3:0) A.W.S. (G-HA) Tanner, Waterstradt, Monson
Appreciation course in drama, with attention given to various forms—tragedy, comedy, farce, melodrama, and modern problem play—and with a critical reading of famous examples of each type.

254 (54). **Introduction to Biography.** (3:3:0) W. (G-HA) Young
Study of short biographies of some famous statesmen, patriots, adventurers, scientists, inventors, painters, writers, and others, including Hitler, Napoleon III, George III, Edison, Wilson, Jefferson, Lincoln, John Brown, Goethe, Gaugin, the Curies, and Dolly Madison.

261 (61). **Masterpieces of American Literature.** (2:2:0) A. (G-HA) Staff
Selected readings in American literature from colonial times to Emerson, with emphasis on Franklin, Poe, Hawthorne, and Emerson.

262 (62). **Masterpieces of American Literature.** (2:2:0) W. (G-HA) Staff
Selected readings in American literature from Thoreau to Mark Twain, with emphasis on Thoreau, Melville, Whitman, and Mark Twain.

263 (63). Masterpieces of American Literature. (2:2:0) S. (G-HA) Staff
Selected readings in American literature from about 1890 to the present.

271 (71). Masterpieces of English Literature. (2:2:0) S. (G-HA) Staff
Selected reading in medieval and renaissance English literature, including selections from folk epic Beowulf, Chaucer's Canterbury Tales, Middle English folk ballads, and Shakespeare's plays and sonnets.

272 (72). Masterpieces of English Literature. (2:2:0) W. (G-HA) Staff
Selected readings in 17th and 18th century English literature, including selections from 17th century lyrics and from works of Milton, Dryden, Pope, Swift, Gray, Blake, and Burns.

273 (73). Masterpieces of English Literature. (2:2:0) S. (G-HA) Staff
Selected readings in 19th and 20th century English literature, including selections from great novels of these centuries and from the works of Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, Arnold, Hardy, Yeats, and Eliot.

282 (82). Shakespeare. (3:3:0) A.W.S. (G-HA) Britsch, Young
Appreciation course in Shakespeare, with an interpretive reading of from six to eight of his great dramas.

Upper Division Courses

318, 319, 320 (118). Advanced Imaginative Writing. (2:2:0 ea.) A.S. Prerequisite: English 218 or special permission of the instructor or the department chairman. Cheney, Larson
Composition course intended to give experienced student writers opportunity to further develop their skills in writing poetry, fiction, and drama.

331 (131). The English Novel to 1832. (3:3:0) (G-HA) (Not given this year.) Rice
English prose fiction to beginning of Victorian period, with emphasis on Defoe, Richardson, Fielding, Smollett, Sterne, Scott, and Austen.

332 (132). The English Novel from Dickens to Hardy. (3:3:0) A. (G-HA) B. Clark
English novel from 1832 to 1900, with emphasis on Dickens, Thackeray, Trollope, the Brontes, George Eliot, and Hardy.

333 (133). The Modern English Novel. (3:3:0) S. (G-HA) B. Clark
English novel from 1890 to the present, with emphasis on Hardy, Conrad, Bennett, Galsworthy, Lawrence, Maughm, Joyce, Woolf, and several contemporary novelists.

335 (135). The American Novel to Dreiser. (3:3:0) A. (G-HA) Jacobs, Olson
Nineteenth century American novelists, with emphasis on Cooper, Hawthorne, Melville, Twain, Howells, and James.

336 (136). The Modern American Novel. (3:3:0) W. (G-HA) Jacobs
Twentieth century American novelists, with emphasis on Dreiser, Cather, Lewis, Hemingway, Faulkner, Steinbeck, Wolfe, and Fitzgerald.

345 (191). The Spirit of Tragedy in Literature. (4:4:0) W. (G-HA) Christensen
Study of tragedy as experienced in drama from the Greeks to the present time.

350 (150). The Bible as Literature. (3:3:0) A.W.S. (G-HA; G-R) Smart, Thomas, Olson

356 (156). World Classics. (3:3:0) A. (G-HA) Britsch
Greek epic and tragedy, with emphasis on works of Homer, Aeschylus, Sophocles, and Euripides in modern translation.

357 (157). World Classics. (3:3:0) W. (G-HA) Britsch

Latin and Italian epic, especially Virgil's Aeneid and Dante's Divine Comedy in modern translation.

358 (158). **World Classics.** (3:3:0) S. (G-HA) Britsch
European masterpieces of the modern era, with emphasis on works of Goethe, Schiller, Voltaire, Balzac, Flaubert, Pushkin, Turgenev, Tolstoy, and Ibsen, in translation.

359 (159). **The Short Story.** (3:3:0) A.S. (G-HA) Cheney, B. Clark
Critical study of selected great short stories—American, English, and European—with emphasis on 20th century stories.

366 (166). **Modern Poetry.** (3:3:0) A.S. (G-HA) Hart, Larson
Major English and American poets of the 20th century.

367 (167). **English and American Folk Poetry.** (3:3:0) W. (G-HA) Cheney
English and Scottish ballads and American folk song.

376 (176). **Twentieth Century English Literature.** (3:3:0) S. (G-HA) B. Clark, Hart
Major English poets, dramatists, and fiction writers of our century.

382 (182). **Shakespeare.** (5:5:0) W.S. (G-HA) Christensen

490 (195). **Senior Seminar for English Majors.** (2:1:0) A.W.S. Staff
Class will meet once a week during Autumn and Winter Quarters and will end with a written comprehensive examination early in Spring Quarter.

495, 496, 497 (199a, b, c). **Individual Readings.** (1-6:2-12:0 ea.) A.W.S. Staff
Available only to English majors and students on foreign tours. English majors in residence will be limited to a maximum cumulative total of 3 credit hours, students on tour to a maximum total of 6 credit hours.

Advanced Undergraduate or Graduate Courses

500-509 (185). **Eminent American Writers.** (2:2:0 ea.) A.W.S. (G-HA) Staff
Different writers are treated each year in this series.

510-519 (186). **Eminent English Writers.** (2:2:0 ea.) A.W.S. (G-HA) Staff
Different writers are treated each year in this series.

521 (121). **History of the English Language.** (5:5:0) S. Christensen
Course descriptive of the English language in various stages of its development, with background of related historical events.

525 (221). **Old English.** (5:5:0) A. Young
Approval of instructor required for registration of an undergraduate.

526 (222). **Middle English.** (3:3:0) S. Monson, Christensen
Approval of instructor required for registration of an undergraduate.

541 (141). **English Drama to 1642.** (3:3:0) A. (G-HA) Young
Religious drama of the Middle Ages, court plays, and popular drama of the Renaissance, excluding Shakespeare.

542 (152). **Restoration and Eighteenth Century Drama.** (3:3:0) W. (G-HA) Rice
English drama from 1660 to 1800, with emphasis on high comedy, sentimental comedy, and heroic tragedy.

543 (143). **Modern English and American Drama.** (3:3:0) S. (G-HA) Tanner
Major English and American dramatists since 1890.

550 (190). **The Criticism and Appreciation of Literature.** (5:5:0) A. (G-HA) Thomas, Hart
Study of critical theories and standards of value.

552 (152). The Renaissance in European Literature. (5:5:0) A. (G-HA) Spears
Major writers of European Renaissance, including Montaigne, Boccaccio, Ariosto, Shakespeare, and Cervantes.

553 (153). Neo-Classicism in European Literature. (5:5:0) W. (G-HA) Spears
Major writers of 17th and 18th centuries in Europe, including Moliere, Voltaire, Dryden, Pope, Swift, Racine, Corneille, and Lessing.

554 (154). Romanticism in European Literature. (5:5:0) S. (G-HA) Spears
Major writers of Romantic Age in Europe, including Goethe, Rousseau, Wordsworth, Shelley, Keats, Victor Hugo, and Madame de Stael.

561 (161). Early American Literature. (5:5:0) A. (G-HA) Jacobs, Thomas, Thomson
American literature from beginning to Civil War, with emphasis on Colonial Puritanism, the Enlightenment, Nationalism and Romanticism. (Does not include authors studied in English 562.)

562 (162). American Renaissance. (5:5:0) A.W.S. (G-HA) Esplin Jacobs, Thomas
Readings in major figures of the American Renaissance: Emerson, Hawthorne, Thoreau, Whitman, and Melville.

563 (163). Later American Literature. (5:5:0) W.S. (G-HA) M. Clark, Jacobs, Thomas, Thomson
American literature from Civil War to present, with emphasis on Realism, Local Color and Naturalism.

571 (171). English Literature to 1500: the Medieval Period. (5:5:0) A. (G-HA) Christensen
English literature from beginnings to 1500, with emphasis on its relationship to other European literatures.

572 (172). English Literature from 1500 to 1660: the Renaissance Period. (5:5:0) W. (G-HA) Young
English dramatic and non-dramatic poetry and English prose of Renaissance period, including Milton but excluding Shakespeare.

573 (173). English Literature from 1660 to 1780: the Neo-Classical Period. (5:5:0) S. (G-HA) Hart, Monson, Rice
English literature from Restoration through Augustan Age of Reason to beginnings of Romanticism, including works of Dryden, Defoe, Swift, Fielding, Pope, and Johnson.

574 (174). English Literature from 1780 to 1832: the Romantic Period. (5:5:0) A.W. (G-HA) Cheney, Tanner, B. Clark
English literature of Age of Romanticism, including works of Blake, Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, and Keats.

575 (175). English Literature from 1832 to 1900: the Victorian Period. (5:5:0) W.S. (G-HA) Farnsworth, Britsch, B. Clark, Hart
English literature of middle and later 19th century, including works of Carlyle, Ruskin, Dickens, Browning, Tennyson, Arnold, the Rossettis, Morris, Swinburne, Meredith, and Hardy.

581 (181). Chaucer. (4:4:0) W. (G-HA) Christensen

583 (183). Milton. (3:3:0) A. (G-HA) Christensen

587 (187). Matthew Arnold. (3:3:0) (G-HA) Christensen

ENGLISH EDUCATION

377 (120). Basic Classroom Procedures. (4:4:3) S. Prerequisites: E.R.S. 305 or equivalent. West

For course description and fee see Education: Instruction 377.

478 (138). **Unit Planning and Teaching.** (4:3:5) A. Prerequisite: Education: Instruction 377 or English Education 377. West
For course description and fee see Education: Instruction 478.

479 (139). **Secondary Student Teaching.** (7:1:20) W. Prerequisite: Education: Instruction 478 or English Education 478.
For course description and fee see Education: Instruction 479.

Graduate Courses

615 (215). **Bibliography and Methods of Research.** (2:2:0) A. Larson

625 (223). **Beowulf.** (3:3:0) W. McKendrick

631 (231). **The English Novel.** (3:3:0) (Not given this year.) B. Clark

635 (235). **The American Novel.** (3:3:0) (Not given this year.) Smart

641 (241). **The English Drama.** (3:3:0) S. Craig

661 (261). **Colonialism and Puritanism in American Literature.** (3:3:0) (Not given this year.) Jacobs

662 (262). **Romanticism in American Literature.** (3:3:0) A. Thomas

663 (263). **Transcendentalism in American Literature.** (3:3:0) W. Jacobs, Thomas, Thomson

664 (264). **Realism and Naturalism in American Literature.** (3:3:0) S. Jacobs, Thomas, Thomson

671 (271). **The Medieval Period in English Literature.** (3:3:0) (Not given this year.) Christensen

672 (272). **The Renaissance in English Literature.** (3:3:0) W. Young

673 (273). **Neo-Classicism in English Literature.** (3:3:0) W. Hart, Rice

674 (274). **Romanticism in English Literature.** (3:3:0) A. B. Clark

675 (275). **The Victorian Age in English Literature.** (3:3:0) S. Farnsworth

682 (282). **Shakespeare.** (3:3:0) S. Hart

695 (299). **Individual Readings in English.** (1-3:2-6:0) A.W.S. Staff

699 (300). **Thesis for Master's Degree.** (Arr.) A.W.S. Staff

This course also counts in English:

Education: Instruction 669. Teaching English in Secondary Schools. (3:3:0)

Entomology

(See Department of Zoology and Entomology.)

Family Living

Lower Division Course

101 (5). Orientation to Family Living. (1:2:0) A. Recommended for all freshmen in the College. Staff

Restricted to students majoring in the College of Family Living. Information needed to assist the student to plan for herself while in college; the scope of family living (home economics); educational, cultural, religious and social opportunities, and library facilities on campus; investigation of and planning for a vocation in family living.

Family Relationships

(See courses in Human Development and Family Relationships.)

Field Crop Production

(See courses in Agronomy.)

Finance and Banking

Professors: Lowe (chairman, 171 N), C.S. Boyle (emeritus), H. R. Clark
Instructors: D. Spencer Grow, R. M. Taylor

Every individual and every business institution has problems which require an understanding of finance and banking. Courses designed to meet these problems are offered in this department so that students may render service in the fields of banking, insurance, real estate, investment institutions, government finance, and industrial and other business organizations as well as in the teaching of these subjects.

The courses listed below include both the University and the Departmental requirements. In addition, each student will select electives according to his individual needs and desires.

Freshman and Sophomore Years

Gen. Education Requirements	**Hours**
Religious education	12
English (composition)	9
Biological sciences	8
Physical sciences (2 depts.)	9
Humanities and aesthetics (2 depts.)	15
Social sciences	15
Economics 101, 274	
Political Science 110	
Psychology 111 (recommended)	
Physical education and health	4
Business Tool Courses	
Accounting 101, 102 or 201, 202	10
Accounting 230	5
Economics 231	5
Economics 231	5
Industrial Management 332	5

Junior and Senior Years

Gen. Education Requirements	**Hours**
Religious education	12

Students who have not heretofore completed all University and group requirements should do so as early as is feasible.

General Business Requirements	
Industrial Mgt. 340	5
Finance and Banking 342	5
Economics 345	5
Marketing 347	7
Finance and Banking 348	5
Major Requirements	
Finance and Banking 451	5
Finance and Banking 452	5
Finance and Banking 453	5
A minimum of three of the following:	
Finance and Banking 460	5
Finance and Banking 465	5
Finance and Banking 561	3
Finance and Banking 563	3
Finance and Banking 567	3
Finance and Banking 571	3
Finance and Banking 574	3
Finance and Banking 575	5
Finance and Banking 577	3
Industrial Management 587, 588, 589	9
Economics 586	5

If either 587, 588 or 589 is chosen, all three must be selected.

Recommended	**Hours**
Accounting 450	3

Suggestions for a Minor

Twenty hours of courses from any one of the other departments in the College of Commerce or at least 10 hours of courses from any two of these departments.

Upper Division Courses

342 (154). An Introduction to Commercial Law (5:5:0) A.W.S. Taylor

Survey of modern American business law as it applies to everyday life and experiences of the citizen.

348 (151). Financial Administration. (5:5:0) A.W.S. Industrial Management 332 recommended. Clark, Lowe

Introduction to principles governing financial administration of business enterprises.

451 (254). Investments. (5:5:0) A. Prerequisite: Finance and Banking 348. Lowe

Analysis of operating and financial characteristics of industrial, public utility, railroad, financial, and real estate enterprises, and various federal, state and municipal bodies.

452 (152). Corporation Finance. (5:5:0) W. Prerequisite: Finance and Banking 348. Clark

Financial problems connected with organization of corporations, underwriting and sale of securities, also management, expansion, and organization of those that are not successful.

453 (153). Money and Banking. (5:5:0) S. Prerequisite: Finance and Banking 348. Clark

Principles of money and banking and exemplifications of these principles in monetary and banking history of the United States.

460 (155). General Insurance. (5:5:0) A. Prerequisite: Finance and Banking 348. Staff

Life, health, accident, fire, property, and liability insurance and principles of risk-bearing as they apply to each classification of the insurance field.

465 (156). Real Estate and Urban Land Economics. (5:5:0) W. Prerequisite: Finance and Banking 348. Lowe

Study of forces of demand and factors of supply of urban land, problems of the building industry, real estate credit, rents and prices, and city growth and structure.

Advanced Undergraduate or Graduate Courses

561 (New). Life Insurance. (3:3:0) W. Prerequisite: Finance and Banking 460. Staff

Advanced study of nature and functions of life insurance and its application to personal and business needs.

563 (New). Property and Casualty Insurance. (3:3:0) S. Prerequisite: Finance and Banking 460. Staff

Advanced study of functions of fire and marine insurance, casualty insurance, and corporate bonding.

567 (New). Real Estate Finance and Development. (3:3:0) S. Prerequisite: Finance and Banking 465. Grow

Mechanisms of real estate finance. Principles of mortgage risk analysis, role of government agencies, and problem of property development.

571 (New). Management of Financial Institutions. (3:3:0) A. Lowe

Study of asset management of various types of financial institutions with special emphasis on loan policies and related problems.

574 (New). Investment Management. (3:3:0) W. Lowe

Theory of investment management and its application in formulation of investment policies for different types of investors.

577 (New). Modern Corporate Problems. (3:3:0) S. Lowe

Problems arising from separation of ownership and control, changing theory of profits and property, changing methods of financing expansion and other current problems.

Graduate Course

699 (300). Thesis for Master's Degree. (1-6:1-6:0) Clark, Lowe

These courses also count in Finance and Banking:

Economics 274. Economic and Financial History of the United States. (5:5:0)

Economics 575. Government Finance. (5:5:0)

Economics 586. Advanced Economic Theory. (5:5:0)

Industrial Management 587, 588, 589. Problems in Busisness Management. (3:3:0 ea.)

Food and Nutrition

Professor: Pfund.
Associate Professor: Bennion (chairman, 2218 SFLC).
Instructors: Bowman, M. Bryner, Kondo.
Special Instructors: K. Barney, B. Dyer, I. Hamblin, I. Thomson.

The Department of Food and Nutrition aims to help the student understand the basic principles which underlie (1) the role played by food in the maintenance of optimum health and (2) the preparation of food of high culinary and nutritive quality. Application of the basic principles of nutrition is made through the planning, preparation, serving, and evaluation of attractive and nourishing family meals and through the preparation and evaluation of single items under experimentally controlled conditions. The economics of buying and the wise management of time and energy are emphasized.

Courses in this department provide background for training in such professional fields as hospital dietetics, public health nutrition, school lunch or restaurant administration, test kitchen work, food demonstration, and research.

For majors in food and nutrition a minimum of 30 credit hours in the Department is required. For graduation from the College of Family Living these hours must be combined with enough credits in the College to total 60 hours. Included shall be

	Hours
Clothing and Textiles	4
Economics and Management of the Home	3
Housing and Design	3
Human Development and Family Relationships	6

Suggested Program for Majors

Freshman Year	Hours
Religion	6
English (determined by placement test)	9
Physical Education and Health	4
Art 110	2
Chemistry 105, 106, 107	15
Bacteriology 121	4
Psychology 111	5
Family Living 101	1
Food and Nutrition 110	4

Sophomore Year	Hours
Religion	6
Physics 104	3
Zoology 164	5
Economics 101	5
Humanities and Aesthetics	7
Clothing and Textiles	4
Human Development and Family Relationships	3-4
Food and Nutrition 255, 256, 264	3,1,4
Electives (consider Chem. 220)	5-7

Junior Year	Hours
Religion	6
History 180	5
Economics and Management of the Home	3
Housing and Design	3
Human Development and Family Relationships	3
Family Living (courses toward 60 credit hour requirement)	10-12
Food and Nutrition 340	4
Food and Nutrition (courses toward major)	6
Electives (selected from list below or others)	6-8

Senior Year	Hours
Religion	6
English (literature)	6
Food and Nutrition 591 or 590	2
Food and Nutrition 594 or 595	1
Food and Nutrition (courses toward major)	6
Electives (selected from list below or others)	28-30

Food and Nutrition 210, 345*, 455*, 470*, 472*, 474*, 530, 535*, 560, 562, 564*.

Students preparing for a dietetic internship must elect food and nutrition courses marked (*); Accounting 101; Chemistry 284; Homemaking Education 381, 382; sociology or additional psychology or economics.

For positions in hospital dietetics, a postgraduate internship is required. Certain centers have been approved by the American Dietetic Association to give internships and training. A list of these centers, as printed by the American Dietetic Association, is available in the offices of the department chairman. These courses are ordinarily twelve months in length.

The courses in this department are planned to be of value to both men and women.

Courses in other departments that might be of interest to students in food and nutrition are Bacteriology 361, Chemistry 220, Horticulture 112, Journalism 101, 211, 571, and Marketing 347.

Lower Division Courses

110 (10). Introductory Food and Nutrition. (4:3:4) A.W.S. Open to all students. Staff

Laboratory experience in the preparation and use of common foods for family meals; their value in the maintenance of optimum health. Consideration of nutritive value in relation to the cost of food.

115 (5). Essentials of Nutrition. 3:3:0) A.W.S. For non-majors in College of Family Living. Majors should elect Food and Nutrition 110. Staff

Basic concepts of human nutrition and their application in achievement and maintenance of optimum health.

124 (20). Food and Nutrition. (1:2:2) Five weeks only. A.W.S. Elect with Clothing and Textiles 124. Designed for men students only. Bryner

To help young men acquire some skill in preparation of quick, easy, nutritious meals and recipes for "batching." To help men acquire some confidence in the discharge of a host's and husband's responsibilities: introductions, table etiquette, conversation, carving. Some periods combined with women's class in meal planning.

130 (50). Food Preservation. (2:2:2) A. Open to all students. (Not offered 1957-58.) Bowman

Basic theory and practice in canning and freezing of fruits, vegetables, and meats. Comparison of preserved products with fresh products.

170 (70). Food Management and Preparation for Large Groups. (2:1:4) A. Open to men and women. Staff

Designed to give assistance in planning and to give some practical experience in preparation of food for community groups. Emphasis on organization and management and adaptation to available facilities. Of particular interest to members or potential members of Church committees and to prospective teachers.

210 (110). Food Preparation. (3:1:4) W. Prerequisite: Food and Nutrition 110. Kondo

Different ways of preparing and using a wide variety of foods. Preparation of some foreign dishes.

240 (40). Menu Planning and Meal Service. (4:3:4) S. Prerequisite: Food and Nutrition 110. Majors in food and nutrition and students planning to teach homemaking should register for Food and Nutrition 340. Fee $3.00. Staff

Problems involved in selection of food for nutritionally adequate family meals with emphasis on those of low cost. Economics of buying and organization and management of time and energy in planning and preparation of meals. Experience in using various types of service.

245 (New). **Nutrition of Mother and Child.** (3:3:0) A. Open to all students. Staff

Designed to give students an understanding of basic principles of nutrition particularly as applied to feeding of expectant mothers, infants, and children.

255 **(105). Fundamentals of Nutrition.** (3:3:0) A.S. Prerequisites: Food and Nutrition 110, Zoology 164, and Chemistry 102. Staff

Basic concepts of human nutrition at all ages. Achievement and maintenance of optimum health for all family members. Relation of cost to nutritive value.

256 **(106). Fundamentals of Nutrition, Laboratory.** (1:0:2) A.S. Designed to accompany Food and Nutrition 255. Staff

Experience involving a study of food portions, their cost, and their value in supplying body needs.

264 **(120). Introduction to Experimental Cookery.** (4:3:4) W.S. Prerequisites: Food and Nutrition 110 and Chemistry 102. Bennion

Hows and whys of food preparation. An understanding of the purpose of ingredients and the procedure used in the preparation of some common foods. Comparison of products prepared when kind or proportion of ingredients or method of manipulation is varied.

Upper Division Courses

330 (150). Food Preservation. (2:2:2) A. Prerequisites: Chemistry 101, Bacteriology 121, and Food and Nutrition 264. Bowman

Underlying theory of and practice in the canning and freezing of fruits, vegetables, and meats; in the freezing of cooked products; in jelly-making and pickling. Comparison of products with fresh produce.

340 (140). Menu Planning and Meal Service. (4:3:4) A.W. Prerequisites: Economics 101, Food and Nutrition 255 and 264. Economics and Management of the Home 325 recommended. Fee $3.00. Bryner

Application of fundamentals of nutrition to selection of food for family meals. Budgeting of the food dollar in families of different income levels. Organization and management of time and energy in planning and preparation of meals. Experience in use of various types of service.

345 (145). Nutrition of Mother and Child. (2:2:0) S. Prerequisite: Food and Nutrition 255. Staff

Application of principles of nutrition to feeding of expectant mothers, infants, and children.

435 (115). Advanced Nutrition. (3:2:2). S. Prerequisites: Food and Nutrition 255 and Chemistry 103 or 210. Bennion

Detailed study of body metabolism in relation to food intake, with emphasis on the role of specific nutrients in human nutrition.

455 (155). Nutrition in Disease. (3:2:2) A. Prerequisite: Food and Nutrition 255 and Chemistry 210. Staff

Metabolic changes in abnormal conditions. Use of therapeutic diets as an aid in control of such conditions.

470 (170). Quantity Food Preparation. (5:3:6) W. Prerequisites: Food and Nutrition 264 and 340. Offered 1958 and alternate years. Staff

Practical experience in menu planning and food preparation for large groups. Use, operation, and maintenance of equipment.

472 (172). Food Management in Institutions. (4:3:6) W. Prerequisite or concurrent: Food and Nutrition 470. Offered 1958 and alternate years. Staff

Administrative problems of food-service operation. Management of financial and personnel problems, planning of institution kitchens, and selection of equipment. Field trips, observations, and practical experience to be arranged.

474 (New). Food Purchasing for Institutions. (2:2:0) S. Offered 1958 and alternate years. Prerequisites: Food and Nutrition 470 and 472. Staff

Procedures involved in selection and purchase of food products for institutional use.

Advanced Undergraduate or Graduate Courses

560 (160). Chemistry Applied to Food. (2:2:0) W. Prerequisite: Chemistry 101. College of Family Living students: Food and Nutrition 264 also. Offered 1958 and alternate years.

An understanding of quality in prepared food such as biscuits, muffins, other quick breads, candies, some frozen desserts, vegetables, and canned products. Practices followed in preparation are related to physiochemical properties of gases, liquids, solids, and solutions; pH, hydrogen-ion concentration, and titratable acidity and to chemical reactions involved.

561 (161). Chemistry Applied to Food, Laboratory. (1:0:2). Designed to accompany Food and Nutrition 560. Offered 1958 and alternate years. Staff

562 (162). Chemistry Applied to Food. (2:2:0) S. Prerequisite: Chemistry 103 or 284. College of Family Living students: Food and Nutrition 264 also. Offered 1959 and alternate years. Pfund

An understanding of quality in prepared food such as meat, fish, eggs and egg products, cheese dishes, gelatin dishes, bread, cake, and pastry. Composition of food and practices followed in its preparation are related to its colloidal nature and to chemical and bio-chemical reactions involved.

563 (163). Chemistry Applied to Food, Laboratory. (1:0:2) Designed to accompany Food and Nutrition 562. Offered 1959 and alternate years. Staff

564 (122). Experimental Cookery. (4:3:4) A. Prerequisite: Food and Nutrition 264. Offered 1958 and alternate years. Bennion

Continuation of Food and Nutrition 264. More emphasis upon experimental techniques used in measuring quality of food.

590 (180). Readings in Food. (2:2:0) A. Prerequisite or concurrent: Food and Nutrition 564. Staff

591 (175). Readings in Nutrition. (2:2:0) A. Prerequisites: Food and Nutrition 435. Staff

594 (194). Special Problems in Food. (1-3:0:3-9) S. Prerequisite: permission of instructor and chairman of department. For students who have completed at least 15 hours in food and nutrition, including Food and Nutrition 590. Staff

Independent study of a special problem in food under direction of an instructor.

595 (195). Special Problems in Nutrition. (1-3:0:3-9) S. Prerequisite: permission of instructor and chairman of department. For students who have completed at least 15 hours in food and nutrition, including Food and Nutrition 591. Staff

Independent study of a special problem in nutrition under direction of an instructor.

Graduate Courses

622 (222). Recent Advances in Foods. (2:2:0) Su., 1958. Prerequisite: Food and Nutrition 264 or its equivalent. Staff

625 (225). Recent Advances in Nutrition. (2:2:0) Su., 1959. Prerequisite: Food and Nutrition 435 or its equivalent. Staff

641 (241). **Problems in Teaching Food and Nutrition.** (2-3 credits) Su., 1957. Two or three-week workshop. Prerequisite: Two years' experience teaching food and nutrition or home economics. Bennion

644 (244). **Science and Experimental Foods.** (3:2:2) Su., 1957. Prerequisite: Food and Nutrition 264. Pfund

Protein foods; simple colloidal systems: gels, emulsions, and foams.

French

(See courses in Languages.)

Geography

Assistant Professors: Tuttle (chairman, 366 McK), Duke, Fisher, Layton, Reeder.

The Department of Geography serves three classes of students: (1) professional major students, (2) non-professional major students who wish to build a broad cultural education around a central interest in geography, (3) students majoring in other fields who wish some acquaintance with the contribution of geography to the understanding of the world and its problems.

For majors, the department provides work in the following general fields of specialization: area analysis, cartography, regional planning.

The following courses in geography are required for a major:

Lower Division. Geography 105, 223, 275. Geology 101 and 102 or 111.

Upper Division. Geography 310, 401; at least two of the following regional courses: 420, 430, 440, 450; at least two of the following systematic courses: 560, 565, 580, 581, 582, 583, 584, 598 (seminar); and electives in geography to make a total of 45 hours.

Lower Division Courses

105 (11). Introduction to Geography. (5:5:0) A.W.S. (G-SS). Tuttle
General survey of man's use of his natural environment including a study of landforms, climates, soil, natural resources.

110 (12). Geography in World Affairs. (5:5:0) A.W.S. (G-SS) Duke
Introduction to world geography emphasizing regions, resources, and economic activities of major political areas of the world.

121 (21). Geography of Utah. (3:3:0) W. Layton
Detailed regional study of the state, with special emphasis on cultural and economic relationships of Utah to the nation.

223 (23). Economic Geography. (3:3:0) A.S. (G-SS) Layton
Brief survey of the world's resource pattern. Origin, importance and movement of major commodities in world affairs.

275 (75). Map Reading. (3:2:2) A. Layton
Maps as tools for teaching and research. Sources of maps and interpretation of map data.

Upper Division Courses

303 103). Map Drawing. (3:1:4) W. Layton
Maps as a means of recording information. Methods of illustrating various types of data and preparation of maps for reproduction and publications.

305 (105). Physiography of North America. (3:3:0) S. Prerequisite: consent of instructor. Tuttle
Study of characteristics of landforms of the continent.

310 (110). Geography of North America. (5:5:0) A. (G-SS) Tuttle
Geography of the United States, Alaska, and Canada, including study of climates, landforms, natural resources, agriculture, and industries.

360 (New). World Mineral Resources. (2:2:0) S. Layton
Geography of reserves, production, and uses of the world's important metallic and non-metallic minerals.

401 (100). Geography of Climates. (3:3:0) A. Prerequisite: consent of instructor. Tuttle

Study of climate, one of the most important of all geographic factors, including climatic elements, controls, distribution and classification.

420 (120). Latin America. (5:5:0) A. Layton

Physical and cultural landscapes of geographic regions of South and Central America.

430 (130). Europe. (5:5:0) A. (G-SS) Duke

Study of the land and how man is utilizing natural and human resources of Europe. Emphasis on human geography of major political regions.

440 (140). Asia. (5:5:0) W. Prerequisite: consent of instructor. Tuttle

Geography of one-third of the earth and two-thirds of its people. Man's use of his natural environment on the world's largest continent.

450 (150). Africa. (5:5:0) W. Duke

Systematic regional treatment of physical, economic, political and cultural geography of Africa.

460 (New). Australia and New Zealand. (3:3:0) S. Duke

Physical and cultural geography of Australia, Tasmania and New Zealand.

490, 491, 492. (195). Readings. (1:1:0 ea.) A.W.S. For majors only. Staff

495 (New). Special Problems. (1-3:1-3:2-6) A.W.S. For majors only. Staff

Advanced Undergraduate or Graduate Courses

560 (160). Industrial Geography. (5:5:0) S. Prerequisite: Geography 223. Layton

Analysis of major industries in the United States with regard to location of raw materials, present technology and markets.

565 (165). Urban Geography. (3:3:0) W. Layton

Survey of location, development, and functions of various urban areas.

570 (New). Geographic Field Techniques. (3:1:4) S. Duke

Techniques of observation, field mapping and report writing. Consideration of problems in geography of local region.

584 (176). Political Geography. (3:3:0) S. Prerequisite: consent of instructor. Duke

Study of location, human and natural resources, economics, politics, and other factors which contribute to foundation of national power for world's major areas.

598 (199). Seminar. (1:1:0) A.W.S. Staff

Graduate Courses

605, 606, 607 (205, 206, 207). Research. (1-2:1-2:0 ea.) A.W.S. For majors only. Staff

611 (211). United States. (3:3:0) W. Prerequisite: Geography 310. Tuttle

621 (221). South America. (3:3:0) W. Prerequisite: Geography 420. Layton

622 (222). Caribbean Area. (3:3:0) S. Prerequisite: Geography 420. Layton

631 (231). Western Europe and the Mediterranean. (3:3:0) A. Prerequisite: Geography 430. Duke

632 (232). Eastern Europe and the U.S.S.R. (3:3:0) S. Prerequisite: Geography 430. Tuttle

641 (241). Orient. (3:3:0) S. Prerequisite: Geography 440. Tuttle

680 (290). Geography of Underdeveloped Areas. (3:3:0) W. Prerequisite: consent of instructor. Duke

690, 691, 692 (295). Readings. (1:1:0 ea.) A.W.S. For majors only. Staff

695 (New). Special Problems. (1-3:1-3:2-6) A.W.S. For majors only. Staff

698 (299). Graduate Seminar. (1:1:0) A.W.S. Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

These courses also count in Geography:

Political Science 580. Foundations of National Power (The Americas). (3:3:0)
Political Science 581. Foundations of National Power (Europe). (3:3:0)
Political Science 582. Foundations of National Power (Near and Middle East). (3:3:0)
Political Science 583. Foundations of National Power (Far East and Pacific). (3:3:0)
History 663. Historical Geography of the United States. (3:3:0)

Geology and Geological Engineering Science

Professors: Bullock (chairman, 289 ESC), Bissell, G. H. Hansen.
Associate Professor: Hintze.
Assistant Professors: Bushman, Rigby.
Instructors: Brimhall, Lewis.

It is expected that a student intending to major in geology shall have met the general entrance requirements of the College of Physical and Engineering Sciences. All students majoring in geology are required to complete the following courses, or their equivalents at another institution, to obtain the bachelor's degree: Geology 111, 112, 113, 251, 252, 253, 311, 312, 313, 410, 460, 470, and 480. No more than two required geology courses can be taken during any one quarter. Mathematics 111, 112, 231, Chemistry 111, 112, 113, and Physics 111, 112, 113, or 211, 212, 213, are required of all geology majors. Starred courses are recommended. The following courses are recommended to fulfill partially the group requirements: Botany 112, Zoology 105, History 170, Geography 223, and Archaeology 150.

Mathematics 232, 233, and 234 are required of all students majoring in geological engineering, geophysics, or geochemistry, and are strongly recommended for all geology majors. Requirements for students intending to teach in the elementary and secondary school are listed under composite majors in mathematics and physical science under the College of Education.

For general requirements governing study beyond the bachelor's degree, see the Graduate School regulations. Requirements for a master's degree in geology include (1) successfully passing the Graduate Record examination, or in case of failure, passing the Department of Geology entrance examination (This examination must be taken in the first quarter of graduate work or in the prior quarter.); (2) receiving departmental approval by demonstrating ability and qualifications to pursue graduate studies; (3) completing at least 23 hours of formal course work in a major field and at least 15 hours of formal course work in a minor field; (4) completing a thesis embodying the results of research under a faculty member's supervision; and (5) passing an oral examination at which the candidate is given an opportunity to defend his thesis.

The Department of Geology offers instruction in three broad divisions of geology, with the following suggested course offerings under each division: (1) Economic geology and mineralogy—Geology 520, 621, 622, 625, 640, 641, 645, 646, 651, 652, 653, 661, 662, 663; (2) Stratigraphy, sedimentation, and paleontology—Geology 575, 576, 670, 671, 672, 678, 680, 682, 683, 684; and (3) Structural, field and dynamic geology—Geology 507, 512, 517, 530, 535, 610, 611, 615, 673.

SUGGESTED CURRICULUM FOR GEOLOGY MAJORS

Freshman Year

	A	W	S
Geology 111, 112, 113, or Chemistry 111, 112, 113	5	5	5
Mathematics 111, 112, 231	5	5	5
English 111, 112, 113	3	3	3
Phys. Ed. and Health	1	1	2
Religion	2	2	2
	16	16	17

Sophomore Year

	A	W	S
Geology 111, 112, 113 or Chemistry 111, 112, 113	5	5	5
Geology 251, 252, 253	3	3	3
*Mathematics 232, 233, 234	5	5	5
Religion	2	2	2
Group Requirements and Electives	3-8	3-8	3-8
	18	18	18

Junior Year

	A	W	S
Geology 311, 312, 313	5	4	3
*Geology 305		3	
Physics 111, 112, 113 or 211,212,213	5	5	5
Religion	2	2	2
Group Requirements and Electives	5	3-6	7
	17	17	17

Summer School

Geology 410 (Geology Summer Field Camp) ....6 hours

Senior Year

	A	W	S
Geology 480, 470, 460	4	4	4
*Geology 505, 450		2	4
Religion	2	2	2
Electives (and group requirements not filled)	11	9	7
	17	17	17

SUGGESTED CURRICULUM OF GEOLOGICAL ENGINEERING

Freshman Year

(Same as all Engineering Students)

Sophomore Year

(Same as all Engineering Students)

Junior Year

	A	W	S
Geology 111, 112, 113	5	5	5
Geology 251, 252, 253	3	3	3
Civil Engineering 320	5		
Civil Eng. 301, 302, 303	5	5	5
Religion		4	2
Electives		1	3
	18	18	18

Senior Year

	A	W	S
Geology 311, 312, 313	5	4	3
Geology 480, 470, 460	4	4	4
Geology 540	4		
Elec. Eng. 301, 302, 303	4	4	4
Religion		4	2
Electives	1	2	5
	18	18	18

Summer School

Geology 410 (Geology Summer Field Camp) .... 6 hours

Fifth Year

	A	W	S
Chemistry 221, 222, 214	5	5	5
Geology 645, 646, 450	3	3	4
Geology 530, 640, 641	3	4	4
Geology 520, 625, 661, or Geology 660, 661, 662	5-3	4-3	5-4
Electives	2-4	2-3	0-1
	18	18	18

Lower Division Courses

101 (1). Introduction to Geology. (3:3:0) A.W.S. (G-PS) Staff

A cultural non-technical course dealing with physical geology. Designed for the non-science student who desires a broad introduction to earth science and a greater appreciation of one's surroundings. Annual two-day field trip through central and southern Utah (Bryce and Zion Canyons) is sponsored each spring for all Geology 101 and 103 students of the year. May be taken with or without Geology 102.

102 (2). Introduction to Geology Laboratory. (1:0:2) A.W.S. (G-PS) Staff

Laboratory course (including a local field trip) in which common rock and ore-forming minerals, common rocks, and a few maps will be studied. Designed to accompany Geology 101, 110 and 111 and should not be taken separately.

103 (3). Life of the Past. (3:3:0) A.W.S. (G-PS) Rigby

Cultural non-technical course in historical geology. Designed for the non-science student who desires an understanding of life forms and general historical events of the geologic past. Annual field trip. See Geology 101.

110 (91). Geology for Engineers. (3:2:2) W.S. Staff

Study of geologic principles which relate to engineering practice. Geology 102 is required to accompany this course. Designed for all engineering students except the geological engineers.

111 (11). Physical Geology. (4:3:2) A.W. (G-PS) Brimhall
Comprehensive course covering the field of physical geology. Common rock and ore-forming minerals, common rocks, and maps will be studied in the laboratory. Geology 102 is required to accompany this course. Beginning course for all geology majors and geological engineers.

112 (12). Historical Geology. (5:4:2) W.S. Staff
Continuation of Geology 111, constituting a study of the history of the earth and its life forms. Representative fossils will be studied in the laboratory.

113 (13). Introductory Field Geology. (5:3:6) A.S. Hintze, Rigby
Continuation of Geology 112, involving principles of stratigraphy, introduction to paleontology, and applied physical and historical geology.

251 (117). Introductory Mineralogy. (3:2:2) A. Bullock
Introductory study of natural occurrence, chemical composition, uses, and important physical properties of minerals.

252 (118). Economic Mineralogy. (3:2:4) W. Prerequisite: Geology 251. Bullock
Comprehensive study of mineral identification by means of chemical tests, physical properties, and blowpipe analyses, with emphasis on economic ore minerals.

253 (119). Rocks. (3:2:2) S. Brimhall
Megascopic study and classification of important igneous, sedimentary, and metamorphic rocks.

Upper Division Courses

305 (115). Geologic Illustration. (3:2:2) W. Prerequisites: Geology 311 and Mathematics 112. Rigby
Office practice in planning and preparation of geologic maps, structure sections, and other geologic illustrations for professional reports.

311 (128). Structural Geology. (5:5:0) A. Prerequisites: Geology 253 and Mathematics 112. Bissell
Study of structural features of the earth's crust and forces which have produced these structures.

312 (129). Map and Photo Interpretation. (4:2:4) W. Prerequisite: Geology 311. Hintze
Study of use and interpretation of maps and aerial photographs.

313 (130). Geological Field Methods. (3:2:2) S. Prerequisite: Geology 312. Bissell
Practical training in methods of geological field work and the use of field instruments.

410 (160). Summer Field Camp. (6:0:40) (Summer only. See Summer Catalog). Prerequisite: Geology 313. Staff
A six-week Summer Field Camp in geological mapping. Emphasis is placed on quantitative solution of problems in engineering, petroleum, and mining geology. A 1-hour seminar is required during Spring Quarter prior to field camp. Required of all geology and geological engineering students.

450 (140). Petrographic Mineralogy. (4:3:2) S. Prerequisite: Geology 252. Bullock
Introduction to optical identification of minerals from thin-sections and mineral fragments.

470 (172). Principles of Sedimentology. (3:2:2) W. Prerequisite: Geology 253. Bushman
Analytical study of sediments, their origin, constitution, and relationships.

460 (180). Principles of Economic Geology. (5:5:0) S. Prerequisite: Geology 311. Hintze

Study of origin, mode of occurrence, classification, and use of more important metallic ores and non-metallic mineral products. Field trips conducted to local mining camps.

475 (New). Principles of Stratigraphy. (3:3:0) W. Prerequisite: Geology 253. Bissell

Study of principles of stratigraphic correlation, classification and identification.

480 (171). Introduction to Paleontology (4:3:2) A. Prerequisite: Geology 113. Rigby

Systematic study of fossil remains of the animal kingdom, and introductory study of structure, distribution and development of animals in past ages.

Advanced Undergraduate or Graduate Courses

501 (112). Rocks and Minerals. (3:3:0) A. Brimhall

Introductory study of fundamentals of rock and mineral classification and identification. Designed to acquaint the student with the earth's common raw materials, their occurrences, and uses. For students other than geology majors.

502 (New). Geology for Teachers (3:3:0) W. Bushman

A course designed to acquaint the teacher with methods and procedures for teaching geology and with sources of information, projects, and illustrative materials useful in the classroom.

503 (210). Geology of Utah. (3:3:0) S. Brimhall

Study of general principles of physical geology as interpreted from Utah's geological setting. For students other than geology majors.

505 (New). Geological Literature and Scientific Report Writing. (2:2:0) W. Brimhall

Designed to acquaint the student with geological literature through systematic readings and to familiarize him with procedures and techniques of scientific writing by preparing geologic reports.

506 (New). Laboratory Techniques. (1:0:2) A. Rigby

Study of procedures and techniques in laboratory preparation of thin-sections and other illustrative materials.

507 (203). Founders and Concepts in Geology. (3:3:0) A. Bushman

512 (231). Geology of the United States. (5:5:0) W. Hansen

517 (260, 261, 262). Conducted Field Trips. (5:3:4) S. Staff

520 (277). Petroleum Geology. (5:5:0) A. Prerequisite: Geology 311. Hansen

530 (219). Engineering Geology. (4:4:0) A. Staff

535 (285). Ground Water. (5:5:0) S. Hansen

540 (150). Introduction to Geophysics. (3:3:0) A. Prerequisites: Geology 311, Physics 113 or 213. Staff

Outline of the physics of the earth, including studies of the earth's force fields, its physical properties, and its internal constitution.

575 (204). Pre-Cambrian and Paleozoic Stratigraphy. (4:4:0) W. Staff

576 (205). Mesozoic and Cenozoic Stratigraphy. (4:4:0) S. Bushman

591, 592, 593 (291, 292, 293). Seminar. (1:1:0 ea.) A.W.S. Staff

Graduate Courses

610 (230). **Structural Geology.** (4:4:0) A. Staff

611 (106). **Geomorphology.** (5:3:4) A. Bushman

615 (New). **Photogeology.** (4:2:4) S. Hintze

621 (279). **Oil Field Development.** (3:3:0) S. Prerequisite: Geology 313. Offered only in odd-numbered years. Staff

622 (280). **Oil Field Production.** (3:3:0) S. Prerequisite: Geology 313. Offered only in even-numbered years. Staff

625 (216). **Well Logging Methods and Log Interpretation.** (4:2:4) W. Prerequisites: Geology 313 and Physics 113 or 213. Staff

640 (214). **Seismology and Seismic Exploration.** (4:3:2) W. Prerequisites: Geology 540 and Mathematics 231. Staff

641 (115). **Geophysical Exploration** (Other than Seismic). (3:2:2) S. Prerequisites: Geology 540 and Mathematics 231. Staff

645 (217). **Geochemistry.** (3:2:2) Prerequisite: Geology 252. Brimhall

646 (218). **Geochemical Techniques and Mineral Prospecting.** (3:2:2) W. Prerequisite: Geology 645. Brimhall

651 (250). **Optical Mineralogy.** (5:3:4) A. Prerequisite: Geology 252. Bullock

652 (251). **Igneous and Metamorphic Petrography.** (4:2:4) W. Prerequisite: Geology 450 or 641. Bullock

653 (252). **Igneous and Metamorphic Petrology.** (5:4:2) S. Prerequisite: Geology 311. Bullock

661 (281). **Metalliferous Deposits.** (3:3:0) A. Prerequisite: Geology 460. Hintze

662 (283). **Non-Metalliferous Deposits.** (3:3:0) W. Prerequisite: Geology 460. Hintze

663 (282). **Mining Geology.** (3:3:0) S. Prerequisite: Geology 460. Brimhall

670 (273). **Sedimentology.** (3:2:2) A. Prerequisite: Geology 470. Bissell

671 (274). **Sedimentary Petrology.** (3:3:0) W. Prerequisite: Geology 470. Bissell

672 (275). **Sedimentary Petrography.** (2:1:2) W. Bissell

673 (276). **Sedimentary Tectonics.** (4:4:0) S. Bissell

678 (278). **Subsurface Stratigraphy.** (3:2:2) S. Prerequisite: Geology 311 and 470. Bushman

680 (269). **Micropaleontology.** (3:2:2) A. Prerequisite: Geology 480. Rigby

682 (270). **Vertebrate Paleontology.** (3:2:2) W. Offered only in even-numbered years. Prerequisite: Geology 480. Rigby

683 (272). **Biostratigraphy.** (4:3:2) W. Offered only in odd-numbered years. Prerequisite: Geology 480. Rigby

684 (271). **Invertebrate Paleontology.** (4:3:4) S. Prerequisite: Geology 480. Rigby

696 (296). **Readings and Conference in Geology.** (1-6:1-6:0) A.W.S. Staff

698 (201, 202). **Research.** (2-6:2-6:0) A.W.S. Staff

699 (300). Thesis Writing for Master's Degree. (1-6:1-6:0) A.W.S. Staff

German

(See courses in Languages.)

Graphics

(See courses in Civil Engineering and in Industrial Arts and Drawing.)

Greek

(See courses in Languages and in Religion.)

Health Education

Professors: C. J. Hart, Hartvigsen, Holbrook, E. R. Kimball.
Assistant Professors: Geddes (chairman, 217 SFH), Barney, Robison.
Instructors: Bangerter, C. R. Kimball, Leake.

Each student is required to complete successfully Health 130 sometime during his freshman year. Transfer students must have the equivalent or take the course before graduation. Exceptions: (1) Students enrolled in the School of Nursing who complete Nursing 202 and 212 are not required to take Health 130. (2) Veterans are allowed credit for Health 130.

All students who are working toward teaching certification must take either Health 361 or Health 362.

Health Education Major

Students desiring to major in health education will take the following courses: Health Education 121, 310, 325, 332, 361 or 362, 451, 452, 453; Bacteriology 121, 311; Chemistry 101; Food and Nutrition 115; Psychology 340; Zoology 164, 365. Certain other courses will be outlined after consultation with a department adviser. See page 112 for state certification in composite major in health education, physical education and recreation.

Health Education Minor

Students may minor in health education by completing the following courses: Health Education 121, 325, 361 or 362, 451, 453; Bacteriology 311; Food and Nutrition 115; Psychology 340; Zoology 164.

Lower Division Courses

110 (P. E. 170). Driver Education Laboratory. (1:1:2) S. Leake
Driver education for beginning drivers. Used as a laboratory in conjunction with Health Education 310. No driving experience required.

121 (195). First Aid. (2:3:0) A.S. C. R. Kimball
Principles and practices in first aid treatment of injuries. Those successfully completing course will be given American Red Cross First Aid Certificate.

130 (1). Personal Hygiene. (1:2:0) A.W.S. Staff
Required of all freshmen students. May be taken any quarter during freshman year. Designed to present in a popular manner problems concerning personal health and proper habits of hygiene.

Upper Division Courses

310 (P.E. 172). Driver Education and Training for High School Teachers. (2:2:1) S. Leake
Designed to qualify high school teachers and instructors in driver education and behind-the-wheel training.

325 (157). Materials and Methods in Safety Education. (2:2:0) A. Bangerter
Emphasizes school safety, safety in the home, bicycle and traffic safety, and other areas of safety of concern to the educator.

326 (P.E. 175). Safety Procedures in Physical Education and Recreation. (2:2:0) W. Bangerter
Presents incidence of accidents in physical education and recreation; nature of these injuries and accidents, their treatment, and procedure for their prevention.

332 (110). Studies in Alcohol Education. (2:2:0) A. Staff
Nature and effects of alcohol on human organism. Consideration given to effects of alcohol on developing cell, body resistance, longevity, morbidity, mentality, and conduct.

333 (New). Fundamentals of Human Metabolism. (3:3:0) A.S. Staff
A study of the metabolic processes in the human organism responsible for irritability, conductivity, contractility, and recovery from fatigue.

361 (158). Health Education for Elementary Teachers. (3:3:0) A.W.S. Geddes, Robison
Fundamental principles of health and their application to elementary school and home situations. Designed for those preparing to teach in elementary schools.

362 (158). Health Education for Secondary Teachers. (3:3:0) A.W.S. Robison, Geddes
Fundamental principles of health and their application to secondary school and home situations. Designed for those preparing to teach in secondary schools.

451 (131). Health Observation in Schools. (2:2:0) W. Staff
Teaching ways of observing normal and abnormal body functions. Aim is to equip the teacher with skills in observation of school children and to recognize deviation from the normal.

452 (132). School Health Services. (3:3:0) A.S. Geddes
Considers desirable school health services and functions and relationships to public education and education law. Coordinates school health services with community programs.

453 (133). Administration of School Health Program. (3:3:0) S. Geddes
Problems of school health coordinator and his place in the administrative structure of the school. Duties and responsibilities of school health director in coordinating a total health program.

Advanced Undergraduate or Graduate Courses

501 (226). Health Education Workshop. (1-3:0:11-33) A.W.S. Geddes
Intended primarily for extension credit and/or Summer School. Involves a presentation of health education problems followed by discussions—conducted on a workshop basis.

511 (New). Investigations of Human Metabolic Processes. (5:3:4) A. Staff
Methods and techniques in the investigation of human metabolic processes.

521 (224). Evaluation and Selection of School Health Material. (3:3:0) A. Geddes

560 (240). Stimulants and Depressants. (2:2:0) W. **Staff**
Modification of normal physiological processes by stimulant and depressant drugs and materials.

EDUCATION COURSES

377 (120). Basic Classroom Procedures. (4:4:3) W.S. Staff
For course description and fees see Education: Instruction 377.

478 (138). Unit Planning and Teaching. (4:3:5) A.W.S. Staff
For course description and fees see Education: Instruction 478.

479 (139). Secondary Student Teaching. (7:1:20) A.W.S. Staff
For course description and fees see Education: Instruction 479.

Graduate Courses

602 (230). **Seminar in Administration.** (3:3:0) A. Hartvigsen

620 (235). **Basic Relationships.** (5:5:0) S. Staff

692 (292). **Research Methods in Health Education.** (5:5:0) A. Hart

693 (293). **Research in Health Sciences.** (2-8:1-5:5-25) A.W.S. Staff
Independent and/or directed research in problems associated with the health sciences. This course gives credit to those graduate students involved in directed or independent research from grant-in-aid, fellowship, or contract grant support.

694 (294). **Seminar in Readings.** (2:2:0) A.W.S. Staff

696 (296). **Seminar in Problems.** (1:1:0) A. Staff

699 (300). **Thesis for Master's Degree.** (2-6:2-5:0) A.W.S. Staff

700 (301). **Field Project.** (2-6:2-5:0) A.W.S. Staff

These courses also count in Health Education:

Bacteriology 121. Bacteriology. (4:3:2)
Bacteriology 311. Sanitation and Public Health. (3:3:0)
Food and Nutrition 115. Essentials of Nutrition. (3:3:0)
Physical Education 603. Planning and Administration of Facilities. (3:3:0)
Physical Education 605. Personal and Public Relations in Physical Education, Health and Recreation. (3:3:0)
Psychology 340. Mental Hygiene. (3:3:0)
Psychology 440. Clinical Psychology. (3:3:0)
Zoology 164. Vertebrate Anatomy and Physiology. (5:3:4)
Zoology 365. General Physiology. (5:3:4)
Zoology 566. Human Anatomy and Physiology. (5:3:4)

History

Professors: Poll (chairman, 332 McK), S. L. Grow, L. R. Hafen, Jensen (emeritus), Nibley, R. B. Swensen.

Associate Professors: Caldwell, Campbell.

Assistant Professors: Duke, Fielding, Hunt, G. O. Larson, Mabey, Reeder, Riggs.*

Instructor: Martinez.

Requirements for a Major

A history major requires the completion of 45 hours of work in this field. History 110, 111, 120, 121, 388, 390 and Library Science 370 are required courses. The remaining elective hours should be selected in consultation with the department chairman.

A comprehensive examination is given to all majors in the second quarter of the senior year.

A student deciding to major in history should immediately consult the chairman of the department, who will assist in the selection of the minor field.

For the requirements for a teaching major in history and for the composite major in social sciences, which includes history, see College of Education.

Suggestions for a Minor

A history minor requires 20 hours of course work **not** including History 170 or 180. At least 10 hours should be chosen from History 110, 111, 120 and 121.

For the requirements for a teaching minor in history, see College of Education.

American History and Government Requirement

Satisfactory completion of course work in American history and government is required for all candidates for a bachelor's degree from any of the colleges of the University. History 170, History 180, or any of the following combinations of courses satisfies this requirement:

History 120 and 121.
History 120 and Political Science 110.
History 121 and Political Science 110.
Political Science 110 and Economics 274.

Students majoring or minoring in history should **not** take History 170 or 180.

Students in the departments of Economics, Finance and Banking, Journalism, Political Science, or Instruction (social sciences) should elect the combinations appropriate to their fields.

Transfer students desiring to offer work from other institutions to satisfy this requirement should consult the chairman of the History Department for clearance.

History 170 and 180 are credited toward the fulfillment of the social science group requirement. Other courses taken to satisfy the American history and government requirement also are credited toward group requirements, the history courses applying to the humanities group and the political science and economics in the social science group.

Lower Division Courses

110 (10). **World Civilization. I.** (5:5:0) A.W.S. (G-HA) Staff
Beginnings of major world civilizations and their development to approximately 1500 A.D., with emphasis on Europe.

111 (11). **World Civilization. II.** (5:5:0) A.W.S. (G-HA) Staff
Development of major world civilizations since 1500, with emphasis on Europe.

120 (20). **The United States to 1865.** (5:5:0) A.W.S. (G-HA) Staff
Discovery and colonization, the American Revolution, estalishment of the Constitution, foreign affairs, westward expansion, sectionalism and the Civil War.

121 (21). **The United States since 1865.** (5:5:0) A.W.S. (G-HA) Staff
Civil War and Reconstruction, industrialization and urbanization, American imperialism, progressivism, World Wars, New Deal and current problems.

150 (50). **Latin American Civilization.** (5:5:0) S. (G-HA) Hunt
Colonization of Latin America and subsequent development of major political, economic, social and cultural institutions.

170 (70). **The American Heritage.** (5:5:0) A.W.S. (G-SS) Staff
Growth of the United States under the Constitution, with emphasis on English background, winning of independence, founding of the republic, testing of the Union in the Nineteenth Century, and adaptation of the constitutional system to America's rule as an industrial and world power.

180 (80). **The American Heritage.** (5:5:0) A.W.S. (G-SS) Staff
Advanced sections of the basic course in American history and government (See History 170). Problems emphasis. Enrollment determined by freshman aptitude tests and college standing. No student who has had History 170 should enroll in History 180.

Upper Division Courses

312 (112). **The Renaissance and Reformation.** (3:3:0) W.S. (G-HA; G-R) Staff
Cultural trends and developments of the Renaissance; causes and nature of the Reformation and the Catholic Counter-Reformation.

316 (116). **History of Western Civilization. I.** (3:3:0) Staff
Limited to participants in the B.Y.U. Travel-Study Program.

317 (117). **History of Western Civilization. II.** (3:3:0) Staff
Limited to participants in the B.Y.U. Travel-Study Program.

360 (160). **History of the American Frontier.** (3:3:0) S. (G-HA) Hafen
Significance of the frontier to the United States; Anglo-American advance to the Mississippi; exploration and development of the West.

366 (166). **History of Utah.** (3:3:0) A.W.S. (G-HA; G-R) Staff
Early history of the Great Basin; Mormon migration; economic, social, and political developments; problems of territorial government and attainment of statehood.

388 (188). **Historiography.** (3:3:0) A.S. (Recommended for the junior year.) Swensen
Fundamental problems and types of historical analysis and interpretation, philosophies of history and work of outstanding European and American historians. Required of all history majors.

389 (191). **Historical Classics.** (3:3:0) S. Staff
Study of selected masterpieces of historical writing.

490 (190). Senior Seminar. (2:2:0) A.W.S. Prerequisite: Library Science 370. Staff

Research seminar required of all majors in history.

498 (198). Special Readings in History. (Arr.) A.W.S. Staff

Advanced Undergraduate or Graduate Courses

500 (100). Early Oriental History. (3:3:0) A. (G-HA; G-R) Nibley

Ancient civilization as it developed in Egypt, Babylonia, Assyria, Arabia, Persia and Palestine; helpful to those who are especially interested in rise of Jewish religion and scriptures.

503 (103). Literary History of the Greeks. (3:3:0) W. Nibley

Greek life and thought as illustrated in writings of classical authors.

504 (104). History of Greece. (5:5:0) W. (G-HA) Swensen

Political, economic, social and intellectual development of the Greeks from their migration into the Aegean area to the end of the Hellenistic Age.

507 (107). Roman History to 31 B.C. (3:3:0) (1958-59 and alternate years). Swensen

Roman history from the monarchial period to the end of the Republic. Emphasis on political principles and constitutional structures of the Romans which are still significant, and the career of Caesar.

508 (108). Roman History, 31 B.C. to 493 A.D. (3:3:0) S. (G-HA) (1957-58 and alternate years). Swensen

Development of the Roman Empire, causes of its decline, unique features of its civilization and rise and expansion of Christianity.

509 (109). Literary History of the Roman Empire. (3:3:0) S. Nibley

Decline of ancient civilization, its causes, symptoms, and attendant cultural and social developments, as reflected in contemporary writings. To 1453.

511 (111). Medieval Germany and the Papacy. (3:3:0) A. (1957-8 and alternate years.) Swensen

Growth and conflicts of the Holy Roman Empire of Germany and the Roman Catholic Church; their distinctive cultural and institutional achievements.

523 (123). History of Europe, 1914-1957. (3:3:0) A. (G-HA) Mabey

Political, economic and social history of contemporary Europe, with emphasis on international relations and background of present developments.

530 (130). History of Russia to 1900. (3:3:0) W. (1957-8 and alternate years.) Mabey

531 (131). History of Russia since 1900. (3:3:0) S. (G-HA) Mabey

Main trends in Russian development, with emphasis on those factors which contribute to an understanding of the U.S.S.R. today. Either quarter may be taken independently.

540 (140). History of England to 1714. (3:3:0) A. (G-HA) Mabey

Development of the English people and institutions from earliest times to 1714. Special consideration to Tudor period and evolution of parliamentary sovereignty.

541 (141). History of England since 1714. (3:3:0) W. (G-HA) Mabey

Development of cabinet government; economic and humanitarian movements; growth of the empire; the World Wars; post-war problems.

553 (153). History of Mexico. (3:3:0) A. Hunt

Conquest and growth under Spain; winning of independence; development as an independent nation.

555 (101). **History of the Far East.** (3:3:0) W. (G-HA) (1957-8 and alternate years.) Swensen
Development of the civilizations of India, China and Japan. Emphasis upon their unique cultural achievements and significant trends of the present.

556 (156). **History of China to 1900.** (3:3:0) A. (1957-8 and alternate years.) Staff
Major epochs of Chinese history, with emphasis on cultural developments.

557 (157). **History of China since 1900.** (3:3:0) W. Staff
Political, economic and cultural developments, and international relations; Chinese nationalism and the rise of Communism.

558 (158). **Culture of the Orient.** (3:3:0) (1958-59 and alternate years.) Staff
Introduction to some of the social and cultural characteristics of the peoples of the Far East.

562 (162). **The American Westward Movement to 1825.** (5:5:0) A. Hafen
Development of the Trans-Mississippi West through the first quarter of the 19th century, including Spanish, French and Anglo-American colonization.

563 (163). **The American Westward Movement after 1825.** (5:5:0) W. Hafen
Exploration, settlement and development of the Trans-Mississippi West from 1825 to the passing of the frontier in the late 19th century.

564 (161). **The Indian in American History.** (3:3:0) S. (1957-8 and alternate years.) Hafen
Relations between Europeans and Indians; conflict and gradual cultural exchange; the Indian as a citizen of America today.

570 (180). **American Colonial History.** (3:3:0) (1958-9 and alternate years.) Staff
European background and motivation; transplantation of civilization to the New World and the emergence of the new American.

572 (172). **The American Revolution and the Confederation.** (3:3:0) A. (G-HA) Fielding
Causes and character of the Revolution; analysis of men, events and ideas which produced the Constitution.

573 (173). **Intellectual and Cultural History of the United States.** (3:3:0) W. (G-HA) Fielding
Evolution of American life since colonial times, emphasizing intellectual and cultural achievements and impact of industrialization and urbanization.

579 (179). **Contemporary United States History.** (3:3:0) A. Prerequisite: History 121 or equivalent. Poll
Problems in recent history. Emphasis on nature of 1929 depression, New Deal, diplomacy of isolation and Second World War, and post-war problems.

584 (184). **History of American Foreign Relations.** (5:5:0) S. Hunt
Role of the United States in international affairs from colonial times to present.

Graduate Courses

606 (206). **History of Greek Thought.** (3:3:0) W. (1957-8 and alternate years.) Swensen

612 (212). **History of Medieval Thought.** (3:3:0) (1958-9 and alternate years.) Swensen

621 (221). Problems in European History. (3:3:0) (1958-9 and alternate years.) Staff

645 (245). Problems in English History. (3:3:0) (1958-9 and alternate years.) Staff

656 (256). History of the Southwestern United States. (3:3:0) S. (1957-8 and alternate years.) Hafen

663 (263). Historical Geography of the United States. (3:3:0) S. (1957-8 and alternate years.) Duke

670 (270). Colonial American History to 1688. (3:3:0) (1958-9 and alternate years.) Fielding

671 (271). Colonial American History, 1688-1763. (3:3:0) A. (1957-8 and alternate years.) Fielding

675 (275). History of the United States, 1789-1815. (3:3:0) (1958-9 and alternate years.) Hunt

676 (276). History of the United States, 1815-1850. (3:3:0) (1958-9 and alternate years.) Hafen

677 (277). History of the United States, 1850-1877. (3:3:0) (1958-9 and alternate years.) Poll

678 (278). United States Economic History, 1865-1917. (3:3:0) W. (1957-8 and alternate years.) Poll

679 (279). United States Foreign Relations, 1898-1921. (3:3:0) S. (1957-8 and alternate years.) Hunt

686 (286). Constitutional History of the United States. (3:3:0) A. Prerequisites: History 120 and 121 or equivalent. Pre-law students by permission of instructor. Jensen

694 (294). Seminar in Ancient History. (2:2:0) S. Swensen

695 (295). Seminar in Western History. (2:2:0) W. Hafen

696 (296). Seminar in United States History. (2:2:0) A. Fielding

697 (297). Seminar in Utah History. (2:2:0) S. Poll

698 (298). Special Readings in History. (1-2:1-2:0) A.W.S. Staff

699 (299). Thesis for Master's Degree. (4-6:4-6:0) A.W.S. Staff

These courses also count in History:

Economics 274. Economic History of the United States. (5:5:0)
Library Science 370. Historical Bibliography and Methods of Research. (3:3:0).
Political Science 506. History of American Political Thought. (3:3:0).
Political Science 522. Contemporary Problems. (3:3:0).
Political Science 557. Government and History of Canada. (3:3:0).
Political Science 595. American Constitutional Development. (3:3:0)

Home Arts

(See courses in Housing and Design.)

Home Economics

(See College of Family Living.)

Homemaking Education

Assistant Professor: Poulson (chairman, 2218 SFLC).
Instructors: Applonie, Jewell*.
Special Instructors: H. Wakefield, S. Valentine.

The objective of the Department of Homemaking Education is two-fold: to help students become professionally minded and to provide instruction that will lead to certification for teaching. For certification, a bachelor's degree in arts or science from an accredited college and a teaching certificate from the State Department of Public Instruction are required.

Prospective teachers should know that the comprehensive objectives of teaching homemaking are to help girls and boys in the secondary schools meet their needs as individuals, as family members and as community members. The teacher's professional qualifications include enthusiasm for teaching, knowledge and use of social skills, a well-groomed personal appearance, and a wholesome acceptance of professional responsibilities.

Majors in the Department of Homemaking Education will need to complete the following program to receive a secondary certificate from the State Department of Public Instruction to teach in secondary schools:

1. A minimum of 60 credit hours selected from among the subject matter departments within the College of Family Living. The Department suggests 68 to 70 hours, to include the courses listed under (A) and 10 credit hours selected from among those listed under (B).
    A. Clothing and Textiles 110, 115, 225, 260, or 370, 335, 475; Food and Nutrition 110, 255, 256, 264, 340; Economics and Management of the Home 225, 330, 470; Housing and Design 360, 375; Human Development and Family Relationships 210, 211, 322, 361, and Nursing 288.

    B. Clothing and Textiles 355; Food and Nutrition 330, 345, 560; Housing and Design 120, 345; Human Development and Family Relationships 160, 360; Economics and Management of the Home 165.
2. A minimum of 10 credit hours each in biological science, humanities and aesthetics, physical science and social science. The College of Family Living requirements are as follows:

	Hours		Hours
Biological science	10	Physical Science	12
Bacteriology 121		Chemistry 101	
Health 130		Chemistry 102	
Zoology 164		Physics 104	
Human. and aesthetics	15	Social science	15
Art 110		Economics 101	
Other art (3), literature (6),		History 170 or 180	
music, philosophy, speech (4)		Psychology 111	

3. A minimum of 33 credit hours in education: (A) 17 credit hours in homemaking education, (B) 16 credit hours in the College of Education.
    A. Homemaking Education 377, 475, 478, 479.

    B. Health Education 361; Educational Research and Services 304; Education: Instruction 550; Educational Administration 310; Educational Values and Programs 415.

    Suggested Elective:
    Audio-Visual Education 305

The program below is designed so that its successful completion will lead to vocational certification and preparation to teach in all areas of homemaking in the high schools in Utah. Students should plan their program with a member of the Homemaking Education Department before registering.

Suggested Program for Majors in Homemaking Education

Freshman Year

	A	W	S
Religion	2	2	2
English (composition)	3	3	3
Physical Education	1	1	1
Health 130			1
Chemistry 101, 102	5	4	
Physics 104			3
Art 110 (A., W. or S.)	2		
Clothing and Textiles 110, 115 (A., W. or S.)		2	3
Food and Nutrition 110 (A., W. or S.)			4
Family Living 101	1		
Psychology 111		5	
Elective (A. or S.)	3		
Total Hours	17	17	17

Sophomore Year

	A	W	S
Religion	2	2	2
Bacteriology 121	4		
Economics 101		5	
Clothing and Textiles 225, 260 (W. or S.)	3		3
Economics and Management of the Home 225 (W. or S.)			3
Food and Nutrition 255, 256, 264		4	4
Zoology 164 (A. or S.)	5		
Human Development and Family Relationships 210, 211			4
Human Development and Family Relationships 361 (A. or S.)	3		
Nursing 288		2	
Electives (W. or S.)		3	
Total Hours	17	16	16

Junior Year

	A	W	S
Religion	2	2	2
English (literature)		3	
Clothing and Textiles 355	3		
Health Education 361		3	
Educational Research and Services 304	4		
Economics and Management of the Home 330 (W. or S.)		3	
Economics and Management of the Home 470			4
Foods and Nutrition 340	4		
Housing and Design 360, 375		2	3
Human Development and Family Relationships 322 (A.S.)	3		
Homemaking Education 377 (W. or S.)		4	
Homemaking Education 478			4
Electives (W. or S.)			3
Total Hours	16	17	16

Senior Year

Plan 1—Autumn Quarter Block

	A	W	S
Religion		2	2
Humanities			4
English (literature)			3
History 170 or 180		5	
Art		3	
Clothing and Textiles 355			4
Educational Instruction 550		3	
Homemaking Education 475*	2		
Homemaking Education 479*	7		
Clothing and Textiles 475*	2		
Educational Values 415		3	
Economics and Management of the Home 470* (if not taken in third year)	4		
Educational Administration 310			3
Total Hours	15	16	16

Plan 2—Winter Quarter Block

	A	W	S
Religion	2		2
English (literature)	3		
Humanities			4
History 170 or 180			5
Art	3		
Clothing and Textiles 475	2		
Clothing and Textiles 355	4		
Educational Values 415*, Ed. Administration 310		3	3
Education: Instruction 550			3
Economics and Management of the Home 470* (if not taken in third year)		4	
Homemaking Education 479*		7	
Homemaking Education 475*		2	
Electives	3		
Total Hours	17	16	17

Plan 3—Spring Quarter Block

	A	W	S
Religion	2	2	
English (literature)		3	
Humanities	4		
History 170 or 180	5		
Art		3	
Clothing and Textiles 475		2	
Clothing and Textiles 355	3		
Educational Values 415	3		
Educational Administration 310*			3
Education: Instruction 550*			3
Economics and Management of the Home 470* (if not taken in third year)			4
Homemaking Education 479*			7
Homemaking Education 475		2	
Electives		4	
Total Hours	17	16	17

*Courses which may be completed in five weeks to combine in a block with student teaching.

Opportunities for Informal Teaching Experience

Centers are available on campus where consultant instructors trained in all areas of homemaking help students with problems concerned with the mechanics and graciousness of living. The centers offer realistic laboratory situations for student teachers in homemaking education. Student teachers will become aware of the kinds of problems students have since help may be requested with such problems as grooming; etiquette; the care, selection, or construction of clothing; the daily tasks of management; the use of equipment; buying, meal planning, or meal preparation for themselves or for groups; and group entertaining. They will have a chance to observe the consultant instructors help men and women students, some with families, work out solutions to their problems. Opportunity to assist the consultant instructor will also be given.

The centers provide interested, eager audiences for demonstrations planned and carried out by students in homemaking education. These demonstrations will be given in many areas of homemaking, thus giving experience to student teachers as well as answering needs of the groups.

Wymount Village, a group of twenty units which houses 200 students and their families, is a ready-made community for student teachers to learn to adapt teaching methods for adults. This experience will prepare them for adult education programs in the communities where they may teach.

Upper Division Courses

377 (120). **Basic Classroom Procedures.** (4:4:3) W.S. Prerequisite: E.R.S. 304. Poulson

For course description and fees see Education: Instruction 377.

381 (121). **Methods of Teaching Food and Nutrition.** (3:3:0) S. Alternate years. Applonie

Basic principles of teaching food and nutrition in hospitals and public health situations.

382 (New). **Methods of Teaching Food and Nutrition—Laboratory.** (2:0:2) S. Alternate years. Staff

Application of basic principles of education.

475 (123). **Demonstration Experiences.** (2:2:2) A.W. Prerequisite: Homemaking Education 478 or equivalent blocked with Homemaking Education 479. Applonie

Students plan and give demonstrations in areas of food, clothing, equipment, housing and child care, with aspects of management considered in each area. Laboratory for demonstrations may be in Aurelia Spencer Rogers Hall, 9B, Homemaking Education Laboratory or B.Y. High School laboratory. Methods of demonstration adapted to the teaching of homemaking in secondary schools are stressed.

478 (138). **Unit Planning and Teaching.** (4:3:5) A.S. Prerequisite: Homemaking Education 377. Poulson

For course description and fees see Education: Instruction 478.

479 (139). **Secondary Student Teaching.** (7:1:20) A.W.S. Prerequisite: Homemaking Education 478 and the completion of two-thirds of the courses required from among subject matter departments within the College of Family Living. Applonie

Blocked with courses from among those listed as block courses. Supervised teaching is carried on in an approved homemaking depariment of a public secondary school for half a quarter on a full-day basis. The student teacher lives in the community in which she teaches. She bears her own expenses. Close contact is made with faculty, students and community. Participation on committees and in extra-curricular activities and responsible planning and teaching is expected. Lab. fee: $15.00.

Graduate Courses

664 (New). **Curricula in Homemaking.** (2-3:3:0) Su. 1958.

666 (223). **Teaching Home Economics in Secondary School.** (3:3:0) Su. 1957.

668 (New). **Evaluation in the Teaching of Homemaking.** (2-3:3:0) Su. 1958.

670 (New). **Supervision of Student Teachers in Homemaking.** (2-3:3:0) Su. 1958.

672 (New). **Adult Education in Homemaking.** (2-3:3:0) Su. 1958.

680 (New). **Methods of Research in Homemaking Education.** (2-3:3:0) Su. 1959.

690 (New). **Independent Project in Homemaking Education.** (1-4:4:0) Su. 1959.

694 (New). **Graduate Seminar in Homemaking Education.** (1:1:0) Su. 1959.

698 (New). **Field Project.** (Arr.) Su. 1960.

699 (New). **Thesis for Master's Degree.** (Arr.) Su. 1960.

Home Management

(See courses in Economics and Management of the Home.)

Horticulture and Horticultural Specialties

Professors: Harrison, Snell (emeritus).
Associate Professor: Ashton (chairman, 331 B).
Instructor: Reimschiissel.

Students majoring in this department may emphasize either pomology (fruit production), ornamental horticulture, landscape gardening, or floriculture.

Students majoring in pomology are required to complete Horticulture 101, 353, 402, 403, 455, 456, 471, and at least 14 additional hours in horticulture and horticultural specialties. Minimum requirement is 40 hours. Botany 101, 470, and 550 and Chemistry 111 or equivalent courses are also required.

Students majoring in ornamental horticulture are required to take the following courses: Horticulture 103, 107, 315, 317, 318, 319, 324, 402, 403, 416, 430, and 459; Botany 101, 123, 550; Agronomy 451; Chemistry 111 or its equivalent; Drawing 113; and Art 110.

Students majoring in landscape gardening are required to take the following courses: Horticulture 103, 107, 315, 317, 318, 319, 324, 402, 403, 416, 430; Botany 101, 123, 550; Chemistry 111 or its equivalent; Drawing 113; and Art 110.

Students majoring in floriculture are required to take the following courses: Horticulture 103, 107, 315, 318, 402, 403, and 470; Agronomy 459; Botany 101, 123, 550; and Zoology 334.

In addition to the above requirements all students in this department are required to take Agronomy 141, 251; Agricultural Economics 123, 125, and 310; two of the following: Animal Husbandry 101, 161, 170, 207.

Lower Division Courses

101 (1). Principles of Fruit Production. (3:3:0) A.W. Ashton
Principles underlying the profitable production of tree and small fruits. Varieties, soils, sites, fertilizers, culture, pest control, harvesting, storage, and propagation. Introduction to pomology.

102 (2). Vegetable Production. (3:3:0) S. Ashton
Principles and practices of profitable vegetable production.

103 (3). Beautifying the Home Grounds. (3:3:0) A.W.S. Reimschiissel
Principles of design and composition as applied to home ground development and plant culture.

107 (7). Floriculture. (3:3:0) A.S. Reimschiissel
Herbaceous plant culture in the greenhouse and out-of-doors.

112 (12). Flower Arrangement. (3:3:0) A.S. Reimschiissel
Principles and methods of arranging flowers and other plant materials for decorative use in the home and for exhibition.

Upper Division Courses

310 (110). Small Fruit Production. (3:3:0) W. Ashton
Principles and practices of successful and profitable production of small fruits for home and commercial plantings. Special emphasis on new varieties and disease and insect control.

312 (112). Practical Orchard Management. (5:1:8) S. **Ashton**
Training, pruning, fertilizing, insect control, fruit thinning of orchard trees.

315 (115). Garden Flowers. (3:2:2) Taught in even-numbered years. Prerequisites: Botany 101, 123. Reimschiissel
Important ornamental herbaceous plants in Utah.

317 (117). Nursery Practice. (2:0:4) S. Staff

318 (118). Greenhouse Management. (5:3:4) W. Taught in even-numbered years. Staff

319 (119). Turf Management. (3:2:2) A. Staff

324 (124). Landscape Design. (3:0:6) W. Taught in even-numbered years. Prerequisites: Horticulture 103 and Drawing 113. Reimschiissel
Designing private and public home grounds.

352 (152). Systematic Pomology. (2:2:0) A. Taught in odd-numbered years. Ashton
Emphasis on identification, description, and nomenclature of fruits and fruit trees.

353 (153). Harvesting and Storage of Fruits. (2:2:0) A. Taught in even-numbered years. Ashton
Problems related to harvesting and storage of fruits and vegetables.

402 (102). Plant Propagation Laboratory. (2:0:4) W. Ashton
Principles and practices of propagation of horticultural plants.

403 (103). Plant Propagation Laboratory. (2:0:4) W. Ashton

416 (116). Woody Plants. (3:2:2) S. Taught in odd-numbered years. Reimschiissel
Important ornamental woody plants in Utah.

430 (130). Planting Design. (3:0:6) W. Prerequisites: Horticulture 315, 316, and 324. Reimschiissel
Woody and herbaceous plant composition emphasized for private and public grounds.

455 (155). Advanced Pomology. (5:3:4) A. Taught in odd-numbered years. Prerequisite: Horticulture 101. Ashton
Principles and practices of established deciduous orchards.

456 (156). Orchard Management. (3:3:0) W. Prerequisite: Horticulture 101. Ashton
Problems related to climate, soil, water, nutrition, varieties.

458 (158). Weeds and Seed Analysis. (2:0:4) A. Reimschiissel
Important weeds occurring in Utah and their control. Seeds likely to occur in commercial seed.

471 (171). Diseases of Cultivated Fruits. (3:3:0) A. Taught in even-numbered years. Ashton
Bacteria, fungus, virus, and nutritional diseases of horticultural plants.

491, 492, 493 (191, 192, 193). Seminar. (1:1:0 ea.) A.W.S. Ashton
Current literature will be reviewed. For seniors and graduate students majoring in horticulture or plant pathology.

495, 496, 497 (195, 196, 197). Special Problems in Horticulture. (Arr.) A.W.S. Staff

These courses also count in Horticulture:

Agronomy 459. Plant Breeding. (3:3:0)
Botany 170. Diseases of Cultivated Plants. (5:3:4)

Housing and Design

Instructors: E. L. Gardner (acting chairman, 3256 SFLC), Domgaard, L. Taylor.

The Department of Housing and Design aims to help the student appreciate, understand, and plan for attractiveness and usefulness in home environment through study, observation, and creative experience. The primary goal is to increase ability to make the home and its surroundings worthy of their high purpose: to provide a place for the promotion of the spiritual, aesthetic, intellectual, and physical growth of the family, as well as to provide shelter. Principles of good design and the wisdom of planning within the budget are emphasized.

A minor is offered with selected courses from related departments. A major may be elected in conjunction with the Department of Economics and Management of the Home. (See the program suggested under Economics and Management of the Home.)

Courses in other departments that may be of interest to students in Housing and Design are Art 263, Crafts; 313, Home Planning; 314, 415, 417, Interior Design; 259, 359, 360, Ceramics; Horticulture 103, Beautifying the Home Grounds; 112, Flower Arrangement; Industrial Arts 101, Wood and Metal Finishing; 119, 319, Upholstery; 260, Recreational Handicrafts.

Courses are planned to be of value to both men and women.

Lower Division Courses

120 (20). **Weaving.** (2:1:3) A.W.S. Prerequisite: Art 110 or equivalent. Domgaard, Gardner
Creative design as applied to woven fabrics; experience in weaving methods. A survey of hand-woven fabrics in world cultures.

135 (45). **Household Equipment.** (3:3:0) A.W. Vincent
Selection, placement, use, care, and repair of household equipment. Advantages of various types of equipment.

Upper Division Courses

335 (145). **Household Equipment.** (3:3:0) S .Prerequisite: Physics 104. Vincent
Selection, use, care and repair of household equipment. Advantages of various types of equipment. Consideration of installment buying. Kitchen planning for efficient use of equipment. Introduction to home lighting.

360 (160). **Home Furnishings.** (2:1:3) A.W.S. Prerequisite: Clothing and Textiles 115. Art 110, 314, and Clothing and Textiles 260 recommended. Gardner
Art related to the home through home furnishings; their care and construction; economics and are applied to their selection. Laboratory work includes making of draperies, slip covers, lamp shades; quilting; and weaving.

375 (175). **Housing.** (3:3:0) A.S. Housing and Design 360 recommended. L. Taylor
Housing requirements of families as influenced by their interests, activities, and socio-economic status. Planning of room arrangement and space. Field trip.

380 (New). **Interior Decoration.** (5:5:0) (Not given this year.) Prerequisites: Art 110 and Housing and Design 120 or Clothing and Textiles 260. L. Taylor
The interior of the home as a creative expression of the family, its needs

and individuality. Structure, composition, and design of furniture, floor coverings, and fabrics as related to their placement, use, and care within the contemporary home.

590 (New). Special Problems. (1-3:0:3-9) A.W.S. Prerequisite: permission of instructor and chairman of department. Staff

Independent study of a special problem in housing and design under the direction of an instructor.

Graduate Courses

680 (New). Interior Decoration and Furnishings. (5:5:0) W.Su. Prerequisites: Art 110, Clothing and Textiles 160 and 370, and Housing and Design 120. Staff

687 (New). Problems in Room Decoration. (3:2:2) Su. Prerequisite: Housing and Design 680. Staff

Human Development and Family Relationships

Professor: Porter (chairman, 1239 SFLC)
Associate Professor: K. Cannon
Assistant Professor: F. Anderson
Instructors: Barlow, L. Jensen, Storey

Among the purposes of the Department of Human Development and Family Relationships (H.D.F.R.) are the following:

1. To enhance the individual's capacity to select a mate wisely and to function effectively as a marriage partner and parent.
2. To provide training which prepares the individual to earn a livelihood in a satisfying vocation such as nursery school teaching and administration, leadership in recreational programs, youth-group leadership positions, and child and family service agencies. Students may also qualify for an elementary teaching certificate while majoring in the department of H.D.F.R.
3. To provide a foundation for graduate study leading to positions in marriage and family counseling, child guidance and play-therapy, family service agencies, college teaching, and research in human development and family relationships.
4. To provide graduate training leading to a master's degree in human development and family relationships.

The B.Y.U. human development laboratories are the most modern and up-to-date and among the finest in the nation. Through the laboratories of the University and the facilities of the community, opportunities are provided for the study of human development and family relationships from infancy through old age.

Students in H.D.F.R. have the opportunity to enhance their professional training by attending one quarter or more at the Merrill-Palmer School in Detroit, Michigan, with which the College of Family Living has an affiliation (See Page 121 for details).

For a minor in human development and family relationships, a selection of 20 credit hours from the following courses is suggested: H.D.F.R. 160, 210, 211, 261, 322, 360, 361, 405, 412, 510, 570, 572.

For a major in human development and family relationships, a minimum of 36 credit hours in the department is required. For graduation from the College of Family Living these hours are to be combined with enough credits in the College to total 60 hours for women and 50 hours for men. The completion of 60 hours in the College of Family Living, in addition to meeting the minimum requirements of 36 credit hours in the department, also automatically provides a minor in family living general. Another minor may be selected if the student so desires but is not necessary.

Credits in the College of Family Living shall include

For Women:	Hours
Clothing and Textiles	4
Economics and Management of the Home	3
Food and Nutrition	4
Housing and Design	3
For Men:	
Economics and Management of the Home	3-6
Food and Nutrition (110 or 115 and other if desired)	3-6

Housing and Design	3-6

The total for men shall include at least four courses in the three departments designated with a minimum of 3 credit hours in each department and a minimum total of 12 hours.

Suggested Program for Majors

Freshman Year

	Hours
Religion**	6
Freshman English** (determined by placement test)	9
Phys. Ed. and Health 130**	4
Physics, Geology or Chem.*	9
Psychology 111**	5
Art 110	2
Cloth. and Tex. 110 (women) or 115* (women)	2 or 3
Food and Nutrition 115* (men) 110* (men or women)	3 or 4
Family Living 101	1
H.D.F.R. 160	2

Sophomore Year

	Hours
Relogion**	6
Bacteriology 121	4
Zoology 107	5
Economics 101	5
Sociology 111	5
History 170 or 180	5
Humanities and Aesthetics* (art, archaeology, history speech, music)	3-8
Clothing and Textiles 335 (women)	3
Housing and Design*	3
H.D.F.R. 210**, 211**	3, 1
Electives	10-15

Junior Year

	Hours
Religion**	6
English (literature)	6
Psychology 321	3
Econ. and Mgt. of Home 225 or 330	3
Food and Nutrition 345 (women)	3
H.D.F.R. 322	3
360	3
361	3
412	3
413	1
Electives (education, psychology, sociology, music, philosophy, speech)	10-15

Senior Year

	Hours
Religion**	6
H.D.F.R. 510	5
570	3
572	3
592	3
Electives (education, psychology, sociology, H.D.F.R., etc.)	20-25

*required
**required year listed

Specialized Programs

Students specializing in child development and/or nursery education must also take H.D.F.R. 321, 324, 422, 521, 575.

Students specializing in professional work with families must also take H.D.F.R. 440, 580.

Students interested in completing a major in human development and family relationships and also qualifying for an elementary teaching certificate may do so.

For H.D.F.R. Majors Also Qualifying For
Elementary Teaching Certificate

Freshman Year

	Hours
Religion	6
English (determined by placement test)	9
Phys. Ed. and Health 130	4
Psychology 111	5
Physics, geology or chem.	9
Art 110	2
Cloth. and Textiles 110 (women) or 115 (women)	2 or 3
Food and Nutrition 110 (men or women) 115 (men)	3 or 4

Sophomore Year

	Hours
Religion	6
H.D.F.R. 210	3
211	1
360	3
361	3
Bacteriology 121	4
Zoology 107	5
Economics 101	5
History 170 or 180	5
Ed. Inst. 237	3
340	3
Phys. Ed. 375	2

Junior Year

Religion	6
H.D.F.R. 321	3
322	3
324	3
510	5
570	3
English (literature)	3
Econ. and Mgt. of Home 225 or 330	3
Ed. Inst. 422	5
Ed. Adm. 310	3
Ed. R. and S. 304	3
Electives	5-12

Senior Year

Religion	6
English (literature)	3
H.D.F.R. 422	5
572	3
575	3
Ed. Inst. 325	2
448	6
449	6
550	3
Ed. V. and P. 415	3
Electives	10-15

Courses in other departments that may be of interest to students in Human Development and Family Relationships are Ed. Inst. 340; Psychology 340, 440, 455, 540, 550; Sociology 314, 362, 402, 443, 460; Speech 121, 122; Recreation 371.

Courses in this department are planned to be of value both to men and women.

Lower Division Courses

105 (New). The Infant in the Family. (3:3:0) W. Staff

Concerned with the infant as a developing individual within the family unit. Readings and class discussions are supplemented with direct experiences with infants and their parents.

160 (85). Foundation for Marriage. (2:2:0) A.W.S. F. Anderson, K. Cannon, Porter

Understanding oneself in relation to the desire for a marriage partner and a family. Consideration of dating, courtship, engagement, and religious, social and economic factors as related to marriage and its early adjustments.

210 (40). Child Development I. (3:3:0) A.W.S. (†G-SS;G-R) Prerequisite: Psychology 111; Sociology 111 recommended. L. Jensen, Storey

Consideration of the growth and development of the child and his relationships with his family, peers, and teachers from infancy through adolescence. (Must be accompanied by H.D.F.R. 211.)

211 (41). Observation in the Human Development Laboratories. (1:0:2) L. Jensen, Storey

To accompany H.D.F.R. 210.

261 (15). The Latter-day Saint Family. (2:2:0) A.W.S. (G-R) Anderson, K. Cannon, Porter

Place of the family in L.D.S. doctrine and philosophy, together with application of basic religious principles to marriage and family relationships. A comparison of L.D.S. and non-L.D.S. families in time and space.

Upper Division Courses

321 (111). Nursery School Methods. (3:3:0) S. Prerequisite: H.D.F.R. 210. Storey

Curriculum planning for the nursery school, including home-school relations. Observation of teaching in the nursery school.

322 (101). Experience with Children. (3:2:3) A.W.S. Prerequisite: H.D.F.R. 210.
F. Barlow

An opportunity to more fully understand children as well as oneself while working with children in the human development laboratories.

324 (104). Creative Play in Childhood. (3:3:0) W. Prerequisite: H.D.F.R. 210.
Storey

Use of creative play materials in enriching a child's life. Meaning of play and its value in meeting needs of the growing child.

360 (160). Achieving Success in Marriage. (3:3:0) A.W.S. (G-SS;G-R)
K. Cannon, Porter, F. Anderson

Consideration of factors that contribute to successful marriage. Maturity, compatibility and cooperation as basic concepts in marital adjustment. Maximization of family development through healthy parent-child relationships and effective management of family resources. Unique tasks faced by the family in maintaining stability in a dynamic twentieth-century world.

361 (161). Family Relationships. (3:3:0) A.W.S. (†G-SS;G-R) Prerequisites: 9 hours in H.D.F.R., Psychology, and Sociology. K. Cannon, Porter
F. Anderson

Inter-personal relationships in the family; their significance in developing values, goals, attitudes and patterns of behavior through the various stages of the family life cycle.

405 (New). Development in Infancy. (3:3:0) A. Staff

Developmental characteristics during the first eighteen months with implications for guidance and care.

412 (102). Principles of Child Guidance. (3:3:0) S. (†G-SS;G-R) Prerequisite: H.D.F.R. 210 (Must be accompanied by H.D.F.R. 413). Porter

Applications of knowledge and understanding of child behavior and psychodynamics of family inter-action to guidance of children. Behavior and guidance principles are studied directly in the human development laboratories. Helpful to parents and prospective parents.

413 (103). Observation in the Human Development Laboratories. (1:0:2) S.
Porter

To accompany H.D.F.R. 412.

422 (112). Supervised Teaching in the Nursery School. (5:1:12) A.W.S. Prerequisite: H.D.F.R. 321, 322 and consent of instructor. Staff

Experience in teaching and supervising a group of nursery school children three hours a day for a period of six weeks.

440 (120). Development and Adjustments During the Middle and Later Years. (3:3:0) W. (†G-SS;G-R) Prerequisite: 6 hours in H.D.F.R., psychology and sociology. K. Cannon

Adjustments in middle and later years revolving around physical, emotional, and social changes. Emphasis is placed upon needs that arise from changes in family relationships, living arrangements, and employment. Discussions of public and private provisions designed to meet needs of older people.

466 (New). Teaching Marriage and Family Relationships in the High School. (3:3:0 A. Prerequisite: 9 hours in H.D.F.R. Staff

Consideration of problems of high school boys and girls in areas of relationships with parents, siblings, peers, dating, behavior standards, selecting a marriage partner, courtship, love, engagement, adjustment in marriage. Materials which will be useful to the high school teacher and student in thinking through such problems.

492 (192). Seminar. (2:2:0) W. Prerequisite: 15 hours in H.D.F.R. Staff

Analysis and evaluation of selected research reports in human development and family relationships. Special emphasis upon problems involved in designing and executing research.

Advanced Undergraduate or Graduate Courses

510 (110). **Child Development II.** (5:3:4) W. Prerequisites: H.D.F.R. 210, 211; Psychology 321. Porter

Intensive study of application of principles of child development and behavior as they relate to home situations, nursery schools, daycare centers, and other children's programs. Observation and actual experiences with children from infancy through adolescence.

520 (100). **History and Philosophy of Nursery School Education.** (3:3:0) A. Staff

History and philosophy of the child development movement. Consideration of present-day agencies and programs operating to further the welfare of children.

521 (113, 214). **Nursery School Planning.** (3:3:0) S. Prerequisite: H.D.F.R. 321. Staff

Essential procedures in nursery school organization and administration including housing, equipment, food service, health protection and supervision; analysis of responsibilities of a head teacher. Field trips to selected children's centers.

570 (170). **Community Factors in the Development of Children and Families.** (3:3:0) S. Prerequisite: H.D.F.R. 210, 361 and Sociology 111. Porter

Study of community factors in development of children and families. Acquaintance with resources of the community as they relate to the welfare of the child and his family. Field trips to acquaint students with community agencies.

572 (162). **The Professional Person and Families.** (3:3:0) W. Prerequisites: 9 hours in H.D.F.R., psychology and sociology. Porter

Study of ways in which families are important to the professional person who works either directly or indirectly with families; methods of obtaining information about families; kinds of information most valuable to the professional person; effective ways of using information about families.

575 (165, 265). **Parent Education.** (3:3:0) W. Prerequisite: consent of instructor. Porter

Training for parent education. Basic principles in organization of parent study programs. Formulation and presentation of programs for parents.

580 (175). **Introduction to Marriage and Family Counseling.** (3:3:0) W. Prerequisite: consent of instructor. F. Anderson

Theories and techniques used in marriage and family counseling. Consideration of individual and group counseling as it pertains to the family.

590 (190). **Readings in Human Development and Family Relationships.** (1-3:1-3:0) A.W.S. Prerequisite: consent of instructor. K. Cannon

Discussions and reports of current readings in this field. Open to students who have completed fifteen hours of human development and family relationships.

592 (192). **Seminar.** (2:2:0) S. Staff

Analysis and evaluation of selected research reports in human development and family relationships. Special emphasis upon problems involved in designing and executing research.

595 (195). **Special Topics in Human Development and Family Relationships.** (1-3:1-3:0) A.W.S. F. Anderson, F. Barlow, K. Cannon, Porter

Individual study for qualified students majoring in human development and family relationships upon consultation with the instructor and the chairman of the department.

Graduate Courses

610 (210). Advanced Child Development. (3:3:0) W. Prerequisite: H.D.F.R. 510. Staff

611 (New). Current Research in Child Development. (3:3:0) A. Staff

661 (260). Dynamics of Family Interaction. (3:3:0) S. Prerequisites: H.D.F.R. 360 and 361. Porter

663 (263). Critical Problems in Family Life. (3:3:0) W. Prerequisite: H.D.F.R. 361. K. Cannon

664 (New). Current Research in Family Relationships. (3:3:0) W. Staff

666 (New). Problems of Teaching Marriage and Family Relationships in High School. (3:3:0) Su. Prerequisite: A minimum of 2 years of teaching experience. Staff

667 (267). Problems of Teaching Marriage and Family Relationships in College. (3:3:0) Su. Staff

669 (296). Seminar. (2:2:0) W. Staff

697 ((299). Independent Research. (1-3:1-3:0) A.W.S. F. Anderson, K. Cannon, Porter

699 (300). Thesis for Master's Degree. (1-6:1-6:0) A.W.S. Staff

780 (275). Marriage and Family Counseling. (3:3:0) S. Prerequisite: H.D.F.R. 580. F. Anderson

794 (295). Special Topics in Human Development. (1-3:1-3:0) A.W.S. F. Anderson, K. Cannon, Porter

795 (New). Special Topics in Family Relationships. (1-3:1-3:0) A.W.S. F. Anderson, K. Cannon, Porter

These courses also count in H.D.F.R.:

Nursing 288. Family Health and Home Nursing. (2:2:0)
Recreation 371. Planning for Family and Neighborhood Recreation. (2:2:0)

Industrial Arts and Drawing

Professor: Snell (emeritus).
Assistant Professors: Gamett (chairman, I.A.), McArthur.
Instructor: Pierce.

Majors are offered in industrial arts education and vocational industrial education. Minors are offered in industrial arts, drawing, and farm mechanics. A farm mechanics minor cannot be used with an industrial arts major.

Credit in shop courses and drawing is given on the basis of three hours for nine hours application each week during the quarter.

For a major, a sequence of courses must be followed as outlined by the department.

REQUIREMENTS FOR THE INDUSTRIAL ARTS EDUCATION CERTIFICATE

Students who plan to become teachers are encouraged to seek advisement early concerning the secondary teacher-education program. Any attempt to complete one phase ahead of schedule complicates the smooth functioning of the program. Students who do not begin professional preparation until the senior year will find it necessary to devote a part of the fifth year to complete the program.

General Education Requirements

See "General Education Requirements." These requirements are the same for all students who graduate from the University. They should be distributed throughout the four-year program.

Academic Preparation

Major (50 quarter hours).

Drawing*: 6 hours selected from Drawing 102, 109, 113.
Woodwork: Ind. Arts 101, 103, 104, and 3 hours selected from Ind. Arts 105, 302, 303, 304.
Metalwork: 12 hours selected from Ind. Arts 120, 125, 130, 140, 150.
Craftwork: 8 hours selected from Ind. Arts 260, 263, 464, 466.
Electricity: 6 hours, Ind. Arts 360 and 365.
Shop Maintenance: 3 hours, Ind. Arts 301.
Electives:* 3 hours.
*Note: If drawing is selected as the teaching minor, the elective hours should be increased to 9 hours and drawing omitted from the major requirements.

Minor (24 quarter hours)

Drawing 102, 109, 113, 201, 244, 245, 248, 440.
Industrial Arts 101, 103, 140, 260; 4 hours electives in drawing and electricity and 5 additional hours selected in consultation with the chairman of the Industrial Arts Department.

Professional Preparation

The courses which complete this requirement are listed below in the sequence in which they should be taken.

	Hours	Laboratory
Health 362* Health Education	3	None
E.R.S. 550* Guidance Service in Public Schools	3	None
E.R.S. 305 Development and Learning	6	Observation TBA
I.A. 377 Basic Classroom Procedures and Methods	4	Participation (B.Y.U. H.S.)
I.A. 478 Unit Planning, Teaching, and Objectives of Industrial Arts	4	Public School
I.A. 370 Shop Planning and Organization	3	None
I.A. 479 Student Teaching	7	Public School
Ed. Instr. 550 Principles of Teaching	3	None
Ed. Adm. 310** The State, the School, and the Teacher	3	None
Ed. Val. 415 Educational Values	3	None

*May be taken any time in sequence.

**By advisement this course may be taken earlier in the program.

Note: Any deviation from the above sequence must be approved in writing by the department.

Vocational Industrial Education

Option I. Major (59 hours)

Areas	Required Hours	Suggested Courses
Drawing	12	Drawing 102, 244, 245, 341, 495
Electricity	2	Ind. Arts 365
Metalwork	9	Ind. Arts 120, 125, 140
Woodwork	24	Ind. Arts 101, 103, 104, 301, 302, 303, 304, 308, 309
Related Ind. Arts	12	Ind. Arts 119, 306, 307, 401, 403
Minor: Related Field	20	

Option II. Major (58 hours)

Areas	Required Hours	Suggested Courses
Metalwork	20	Ind. Arts 120, 125, 130, 140, 150, 320, 330
Electricity	2	Ind. Arts 360,365
Woodwork	26	Ind. Arts 101, 103, 104, 105, 108, 301, 302, 303, 304, 308, 309.
Related Ind. Arts	10	Ind. Arts 119, 306, 307, 319, 401, 403
Minor: Drawing	20	

Non-teaching Minors

Industrial Arts (20 hours)
  Drawing: 4 hours—Drawing 102, 244.
  Ind. Arts: 16 hours selected from 101, 103, 104, 120, 125, 140, 360, 365.
Farm Mechanics (20 hours)
  Drawing 102.
  Industrial Arts: selected from 103, 120, 125, 150, 205, 207, 308, 365, 401, 403.
Drawing (20 hours)
  Drawing 102, 113, 201, 244, 245, 248, 341.

INDUSTRIAL ARTS

Lower Division Courses

101 (27). Wood and Metal Finishing. (3:1:5) A.S. Pierce
Preparation of surfaces for the application of finishes. Staining, painting, varnishing, lacquering, polishing, etc. Use of brush and air gun.

103 (30). Woodwork. (3:1:5) A.W.S. McArthur
Care and use of woodworking, hand and machine tools applied in fundamental principles of sawing, joining, fitting, and fastening. Required of all majors and minors in industrial arts.

104, 105 (31, 32). Woodwork. (3:1:5 ea.) W.S. Prerequisite: Industrial Arts 103. McArthur.
Use of hand and machine tools in the construction of fine furniture. Drawings, specifications, and cost estimates of all projects must be submitted.

108 (21). Wood Turning. (2:0:4) A.W.S. McArthur
Exercises and projects in spindle and face plate turning.

119 (28). Upholstery. (2:0:4) A.W. Gamett
Typical forms of upholstery, including foundations with and without springs.

120 (11). Acetylene Welding. (3:1:6) A.W.S. Pierce
Fusion welding of mild steel and brazing.

125 (12). Electric Welding. (3:1:6) A.W.S. Pierce
Fusion welding of mild steel and oxy-acetylene cutting.

130 (10). Machine Practice. (3:1:5) A.W.S. Gamett, McArthur
Use of hand tools in bench work, with engine lathe, drill press and grinding operations.

140 (19). Sheet Metal and Ornamental Iron. (3:1:5) W. Gamett
Projects in sheet metal, ornamental iron work, and pattern layout involving fundamental machine and hand tool operations.

150 (16). Forge Practice. (3:1:5) W. Staff
Fundamental forge operations including bending, shaping, welding, and tempering.

205 (17). Farm Machinery. (2:0:4) S. Staff
Care and maintenance of general farm equipment.

207 (18). Gas and Diesel Engines. (3-5:1:5-9) Staff
Designed for agricultural students. Care and maintenance of gas and diesel engines.

260 (60). Recreational Handicrafts. (1-3:0:2-6) A.W.S. McArthur
Students may work in a selected area according to their interests: woodwork, metalwork, plastics, lapidary work, etc. Course is open to all students interested in leisure time activities.

301 (123). Shop Maintenance. (3:1:5) W. Pierce
Care, sharpening, and maintenance of woodworking tools, machines, and supplementary equipment.

302, 303 (125, 126). Cabinet Construction. (3:1:5 ea.) W.S. Prerequisite: Industrial Arts 103. Pierce
Advanced work in cabinet work, upholstery, pattern work, or novelty work.

304 (124). Mill Work. (3:1:5) A. Prerequisites: Industrial Arts 103, Drawing 244. Pierce
Work will be handled as nearly as possible as in actual mill practice. Estimates and working drawings will be made and a careful check of material and labor kept and computed for each job.

306 (170). Standard Construction Methods. (3:3:0) A. Taught alternate years. Snell

Theoretical aspects of building, location, soil conditions, footings, material, and equipment.

307 (171). Estimating. (3:3:0) W. Taught alternate years. Prerequisite: Drawing 244. Snell

Interpreting plans and specifications. Methods of estimating and figuring costs of materials and labor.

308 (116). Carpentry. (3:1:5) W. Prerequisites: Drawing 102 or 113. Pierce

Practical problems in forming framing, sheathing, and insulation.

309 (117). Carpentry. (3:1:5) S. Pierce

Practical problems in interior and exterior trim.

319 (128). Upholstery. (2:0:4) A.W. Prerequisite: Industrial Arts 119. Gamett

Advanced work in upholstery.

320 (112). Welding. (3:1:5) A.W.S. Prerequisites: Industrial Arts 120 and 125. Pierce

Advanced work in acetylene and electric welding.

330 (110). Machine Practice. (3:1:5) A.W.S. Prerequisite: Industrial Arts 130. Gamett, McArthur

Operations in the use of the lathe, shaper, and milling machines.

350 (130). Pattern Making and Foundry Practice. (2:0:4) W. Prerequisite: Industrial Arts 103. Staff

Principles of pattern making taught through wood patterns and sand castings of machine parts.

360 (145). Electricity. (4:2:4) A.W. Staff

Fundamentals of electricity, including DC and AC motors and generators.

365 (146). Electricity. (2:1:3) W. Gamett

Simple electrical circuits in homes and farm buildings.

401 (122). Masonry. (2:0:6) A.S. Pierce

Practice in laying up cinder or concrete blocks into simple wells as needed for farm structures.

403 (119). Plumbing. (2:0:6) W. Pierce

Plumbing and plumbing layout.

464 (64 or 164). Plastics. (2:0:4) W.S. Staff

Fundamental hand and machine operations used in working plastics.

466 (100). Art Metal Crafts. (2:0:4) Gamett

Projects in metal. Hand tooling in brass, copper, and aluminum; soldering and spinning.

490 (180). Special Problems in Industrial Arts. (Arr.) A.W.S. Staff

Credit and subject matter to be arranged.

INDUSTRIAL ARTS EDUCATION

370 (160). Shop Planning and Organization. (3:3:3) S. Gamett

Planning and organizing the physical plant for different types of school shops.

377 (120). Basic Classroom Procedures and Objectives of Industrial Arts. (4:4:3) A.W. Prerequisite E.R.S. 305. Gamett

Classroom procedures and objectives of industrial arts. A fee of $15.00 is charged.

478 (138). **Unit Planning and Teaching.** (4:3:5) A.W. Prerequisite: I.A. 377. Gamett

For course description and fees see Education: Instruction 478.

479 (139). **Secondary Student Teaching.** (7:1:20) A.W.S. Prerequisites: I.A. 478 and completion of two-thirds of courses required for teaching major and minor. Gamett

For course description and fees see Education: Instruction 479.

DRAWING

Lower Division Courses

102 (4). **Blue Print Reading.** (2:2:0) A.W.S. Snell

A fundamental course in blue print reading. Covers instruction necessary to understand the purposes of and the relation between. specifications and drawings as used in industry.

107 (42). **Free-hand Lettering.** (2:0:4) A.W.S. Snell

Practice in lettering as applied in engineering and architectural drawing.

109 (9). **Industrial Arts Design.** (2:2:0) W. Pierce

Fundamental elements and processes of design in industrial arts. Required of teaching majors.

113 (43). **Elementary Drawing.** (3:1:5) A.W.S. Staff

Care and use of instruments, lettering, applied geometry, and orthographic projection. A beginning course for students interested in drawing.

204 (New). **Electrical and Sheet Metal Layout.** (2:1:3) S. Prequisite: Drawing 102. Required of drawing minors. Snell

Intersections, developments and triangulation; electrical symbols, lighting and service layouts.

244 (44). **Architectural Drawing.** (3:1:5) A.W.S. Prerequisite: Drawing 102 or equivalent. Snell

Drawing of architectural details of footings, walls, doors, windows, cornices, etc.

245 (45). **Architectural Drawing.** (3:1:5) A.W.S. Prerequisite: Drawing 244 or equivalent. Snell

Small-house plans, elevations, sections and details.

246 (46). **Descriptive Geometry.** (3:1:5) S. Prerequisite: Drawing 113 or equivalent. Snell

Principles relating to point, line, plane, cylinder, cone, and double curved surfaces, etc. with application to practical problems. Required of architectural students and vocational industrial arts majors and minors in drawing.

248 (47, 48). **Instrumental Perspective, Shades and Shadows.** (3:1:5) W. Prerequisite: Drawing 244. Snell

Theory and application of methods of drawing architectural perspectives with shades and shadows.

249 (49). **Rendering.** (2:1:3) A.W.S. Prerequisite: Drawing 248. Snell

Wash rendering practice plates and rendering of architectural elements.

Upper Division Courses

341, 342, 343 (140, 141, 142). **Architectural Design.** (3:1:5 ea.) A.W.S. Prerequisites: Drawing 244, 245 or equivalent. Snell

Original design by the student. Problem to be passed upon by instructor. Complete set of plans with one display of problem chosen.

354 (150). **Topographical Drawing.** (3:1:5) A.W.S. Prerequisites: Drawing 113 or equivalent. Snell

Topographical symbols, mapping and plotting.

495 (180). Special Problems in Drawing. (1-3:0:6) A.W.S. Staff
Credit and subject matter to be arranged.

These courses also count in Industrial Arts and Drawing:

Art 110. Theory and Practice of Design. (2:2:2)

Art 263. Crafts. (2:2:4)

Industrial Management

Professor: R. L. Smith (chairman, 133 N)
Instructor: L. Wilson

The program in industrial management provides training for positions in industrial engineering, production control, industrial relations, and the operating departments of industrial enterprises. In addition, it facilitates entry into executive trainee programs, the active management of small business, or the continuation of training in a graduate school of business. Major emphasis is given to the development of personal qualities essential to continued advancement through the managerial ranks. These qualities include facility in the use of analytical tools and techniques of business, skill in analysis, the art of decision making, and ability to communicate effectively. Business cases provide the principal basis for instruction.

Requirements for a Major

For the basic course: Accounting 101, 102 or 201, 202 and 230; Economics 101, 231 and 345; Marketing 347; Finance and Banking 342 and 348; Drawing 102; and Industrial Management 332, 340, 450, 451, 452, 460, 587, 588 and 589.

For the production emphasis: Industrial Management 470 and 475.

For the industrial relations emphasis: Industrial Management 469.

Suggested Sequence of Courses for Majors

Freshman and Sophmore Years (108 hours)

	Hours
General Education (63 hours)	
Religion	12
Physical Science	5
Biological Science	8
English (composition)	9
Social Science (including History 170)	10
Phys. Ed. and Health (ROTC students—3)	4
Humanities	15
Business Tool Courses (25 hours)	
Accounting 101, 102 or 201, 202	10
Economics 101	5
Economics 231	5
Electives (20 hours)	

Junior Year (54 hours)

	Hours
General Education (10 hours)	
Physical Science	4
Religion	6
General Business (25 hours)	
Marketing 347	5
Finance and Banking 342	5
Industrial Management 332	5
Finance and Banking 348	5
Economics 345	5
General Production (7 hours)	
Drawing 102	2
Industrial Management 340	5
Electives (12 hours)	

Senior Year (54 hours)

	Hours
General Education (6 hours)	
Religion	6
General Business (9 hours)	
Ind. Mgmt. 587, 588, 589	9
General Production (19 hours)	
Ind. Mgmt. 450, 451, 452	15
Ind. Mgmt. 460	4
Production Emphasis (6 hours)	
Ind. Mgmt. 470	3
Ind. Mgmt. 475	3
Ind. Relations Emphasis (5 hours)	
Ind. Mgmt. 469	5
Electives (13 or 14 hours)	

Recommended Electives

Junior Year: Accounting 285 and 388; Economics 576; Finance and Banking 352 and 353; Marketing 470 and 471; and Mechanical Engineering 152.

Senior Year: Production Emphasis—Industrial Management 485 and 487.

Industrial Relations Emphasis—Economics 461; Psychology 164 and 167; and Sociology 141.

Upper Division Courses

332 (120). Managerial Control. (5:5:0) A.W.S. Prerequisites: Accounting 101, 102 or 201, 202 and 230; Economics 231. Staff
The product of the accountant as distinguisheed from the process of accounting. Stresses understanding and use of accounting data by management.

340 (130). Industrial Organization and Management. (5:5:0) A.W.S. Staff
Introductory to the production function of business. Plant location and layout, machinery and equipment utilization, employee-employer relations, and industrial control.

450 (150). Problems in Production—Manufacturing Processes. (5:6:0) A. Prerequisites: Accounting 101, 102 or 201, 202 and 230; Drawing 102; Economics 101, 231 and 345; Finance and Banking 348; Industrial Management 332 and 240; and Marketing 347. Smith, Wilson
Part of a one-year course dealing with problems encountered by production personnel. Casting and forming and cutting of metals and plastics. Utilizes business cases, films and field trips.

451 (151). Problems in Production—Manpower Management. (5:6:0) W. Prerequisite: Industrial Management 240. Smith, Wilson
Part two of a one-year series. Time and motion studies, methods analysis, wage determination and administraton.

452 (152). Problems in Production—Production Control. (5:6:0) S. Prerequisite: Industrial Management 451. Smith, Wilson
Part three of a one-year series. Product design, materials handling and control, process analysis, routing, scheduling and dispatching.

460 (169). Problems in Industrial Relations. (4:4:0) A. To be taken concurrently with Industrial Management 450. Staff
Human relations in the industrial environment. Develops membership and leadership responsibilities in organizational endeavors. Cases form the basis for the instruction.

469 (160). Personnel Management. (5:5:0) W. Prerequisite: Industrial Management 340. Staff
The administration of a personnel department in promoting effective labor management. Case analysis, individual research and group projects provide the basis for the instruction.

470 (New.) Management of Production Facilities. (3:4:0) W. Prerequisites: Accounting 230 and Industrial Management 450. Wilson
The economics of equipment utilization and replacement, capital budgeting, maintenance control, and tools control. Meets for two consecutive hours, two days per week.

475 (New). Advanced Production Methods. (3:4:0) S. Prerequisites: Industrial Management 451. Wilson
Advanced methods work, automation, and the application of data processing to industrial operations. Meets for two consecutive hours, two days per week.

480 (New). Industrial Planning and Forecasting. (3:3:0) A. By departmental approval only. Staff
Top management policy determination in the areas of production planning, planning of physical facilities, and organization planning as they are related to market and economic forecasts.

485 (185). Industry Analysis. (5:5:0) S. Prerequisite: Industrial Management

451. Smith

Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments.

587, 588, 589 (190, 191, 192). **Problems in Business Management.** (3:3:0 ea.)
A.W.S. Staff

A one-year inter-departmental course limited to seniors in the College of Commerce. Deals with problems requiring analysis, decision, and action on the part of business executives at the operating level in management. The problems cut across subject matter lines and involve marketing, financial, production, personnel, control and other issues all simultaneously pertinent to the development of realistic recommendations. Extensive use of business cases requiring student analysis, group discussions, and written reports will form the principal basis for the conduct of the course.

These courses also count in Industrial Management:

Economics 461. Labor Problems. (3:3:0)
Psychology 164. Industrial Psychology. (3:3:0)
Psychology 167. Personnel Psychology. (3:3:0)
Sociology 141. Industrial Sociology. (3:3:0)

Italian

(See courses in Languages.)

Japanese

(See courses in Languages.)

Journalism

Professor: O. R. Smith (chairman 160 SSC).
Assistant Professor: Butterworth.
Instructors: Carle, L. H. Curtis, Haymore, C. W. Nelson.

The curriculum of the Department of Journalism is designed to provide specialized training for students preparing to enter the following fields of journalism: newspaper and news service newsgathering and editing; radio and television news and advertising; public relations and industrial journalism; and teaching of journalism in secondary schools. Through courses 101 and 305 the department also contributes toward the general education offerings in the field of humanities and aesthetics. Graduate courses are offered leading to the master's degree in journalism.

A student who elects to major in journalism will pursue one of the course sequences listed below:

I. Editorial Journalism: minimum of 40 credit hours in journalism including courses 211, 212, 326, 311, 312, 321, 322, 323, 305, 307, 490. Recommended electives are courses 101, 315, 330; Physics 177.

Typical Schedule of Courses

Freshman and Sophomore Years

	Hours
General Education (72 hours)	
Religion	12
Physical Science	9
Biological Science	8
English (composition)	9
Phys. Ed., Health	4
Humanities (incl. Pol. Sci. 110)	15
Social Sci. (incl. Hist. 121)	15
Major Field (13 hours)	
Journalism 101, 211, 212	9
Physics 177	4
Minor Field and electives (8 hours)	

Junior and Senior Years

	Hours
General Education (12 hours)	
Religion	12
Major Field (28 hours)	
Journalism 305, 307, 311, 312, 315, 321, 322, 323, 326, 330, 490	30
Minor Field and electives (51 hours)	

II. Radio-Television Journalism: minimum of 40 credit hours in journalism, including Journalism 211, 307, 490, Speech 241, and 14 hours selected from Journalism 212, 341, 346, 347, 348, 351, 356, 494, 495, 496; Education: Instruction 307 and Marketing 459. Students who wish to specialize in news broadcasting should elect Journalism 212, 346, 347, 348. Students who specialize in broadcast advertising should elect Journalism 351, 356; Marketing 459. Recommended electives for either specialization are Journalism 101, 305.

Related courses in other departments recommended for radio-television majors are Physics 103, Speech 251, 252, 253, 254, 349, 354.

Typical Schedule of Courses

Freshman and Sophomore Years

	Hours
General Education (72 hours)	
Religion	12
English (composition)	9
Phys. Ed, Health	4
Physical Science	9
Biological Science	8
Soc. Sci. (incl. Pol. Sci. 110)	15
Humanities (incl. Hist. 121)	15
Major Field (12 hours)	
Journalism 101, 211, 212	9
Speech 241	3
Minor Field and electives (9 hours)	

Junior and Senior Years

	Hours
General Education (12 hours)	
Religion	12
Major Field (28 hours)	
Journalism 307, 341, 346, 347, 351, 356, 490	25
Journalism electives	3
Minor Fields and other electives (53 hours)	

III. Public Relations and Industrial Journalism: minimum of 40 credit hours in journalism, including courses 101, 211, 212, 490, 497, 561, 564, 566, and Marketing 459. Recommended electives are courses 326, 305, 311, 312, and 571.

The student should select a composite minor of 30 or more hours from at least two of the following course groups: Accounting 230; Industrial Management 340, 360; Economics 101, 231, 461, 576; Psychology 111, 330, 335, 337, 455; Sociology 111, 314, 320, 446.

Typical Schedule of Courses

Freshman and Sophomore Years

	Hours
General Education (72 hours)	
Religion	12
English (composition)	9
Phys. Ed., Health	4
Physical Science	9
Biological Science	8
Soc. Sci. (incl. Pol. Sci. 110)	15
Humanities (incl. Hist. 121)	15
Major Field (9 hours)	
Journalism 101, 211, 212	9
Electives and Minor Fields (21 hours)	

Junior and Senior Years

	Hours
General Education (12 hours)	
Religion	12
Major Field (31 hours)	
Journalism 490, 497, 561, 564, 566	16
Journalism electives (incl. Marketing 459)	15
Minor Fields and other electives (50 hours)	

IV. Teaching Journalism in Secondary Schools: Students who plan to teach journalism in secondary schools may elect either a conventional major and minor or a composite major in language arts (see p. 111). In either case the 36-hour list below may be used for journalism as the major field of interest or the 24-hour list for journalism as the minor field. Appropriate teacher education courses are prescribed by the College of Education.

36-hour list: Journalism 211, 212, 305, 321, 322, 490; fourteen hours from Journalism 101, 311, 312, 313, 315, 326, 330, 331; Physics 177.

24-hour list: Journalism 211, 212, 321, 322, 490; seven hours from Journalism 326, 311, 312, 313, 330.

Additional Course Recommendations

The programs listed above may be modified to allow for previous experience or individual needs upon permission of the head of the department. For especially qualified students individual programs may be outlined in photo journalism, advertising or community journalism.

Journalism majors are advised to obtain as broad a background as possible in the social sciences. Two years' study in a foreign language are recommended. Majors must have ability to operate a typewriter.

In filling the American history and government requirement of the University it is recommended that journalism majors take Political Science 110 and either History 121 or Economics 274. (These should be taken in place of History 170 or 180.)

Requirements for a Minor

Twenty hours in journalism, selected from one of the course sequences for majors listed above.

The following are suggested as minors for students who major in journalism: economics, English, history, industrial management, languages, marketing, political science, psychology, sociology or speech.

Lower Division Courses

101 (1). Introduction to Mass Communications. (3:3:0) A.W.S. (G-HA) Carle
Survey of historical, social, cultural, functional and vocational aspects of journalism, with emphasis on the layman as a "consumer" of news.

211 (61). News Writing. (3:3:2) A.W.S. Prerequisite: English 113 or permission of department head. Staff
Newspaper style and elements of news; practice in gathering and writing news stories. Use of typewriter required.

212 (62). Reporting. (3:1:6) W.S. Prerequisite: Journalism 211. Carle
News gathering techniques; practice in handling special assignments such as sports, society, politics, conventions and police news.

Upper Division Courses

305 (105). History of Mass Communications. (5:5:0) S. (G-HA) Butterworth
Development of American journalism from its colonial beginnings to the present, in relation to political, social, and economic history of the times. Emergence of media of radio and television.

307 (107). Law of Mass Communications. (3:3:0) W. Carle
Legal limits and priviliges of press and radio; libel, contempt, public documents, copyright and right of privacy. Problems in avoiding criminal and civil liabilities.

311 (161,162). Reporting Workshop. (3:0:9) A.W.S. Prerequisite: Journalism 212. Carle
Supervised work in regular staff positions on the campus newspaper, involving writing of news and feature copy. Conferences with instructor on problems of news gathering and writing.

312 (179). Advanced Reporting Workshop. (3:0:9) A.W.S. Prerequisite: Journalism 212. Carle
Internship in gathering and writing news with supervision from staff members of a general-circulation newspaper. Regular conferences with instructor.

313 (189). Community Newspaper Workshop. (Arr.) A.W.S. Prerequisite: Journalism 212. Staff
Internship under supervision of the editor of a weekly newspaper, giving experience in reporting, editing and management functions.

315 (121). Press Photography. (4:2:6) W. Prerequisite: Physics 177 or equivalent. C. Nelson
Principles of photography for newspapers and periodicals; laboratory exercises in use of photographic equipment for taking and developing news and advertising pictures.

316, 317, 318 (122, 123, 124). Press Photography Workshop. (1:0:3 ea.) A.W.S. Prerequisite: Journalism 315 or consent of instructor. C. Nelson
Individual projects requiring completion of photographic assignments for campus and commercial publications; weekly conferences with instructor on special problems in press photography.

321 (185). News Editing. (3:2:2) A.W. Prerequisite: Journalism 211. Butterworth
Copyreading, proofreading, headline writing, and arrangement of both telegraph and local copy for newspapers. Special problems in handling sectional stories.

322 (185). **Newspaper Makeup.** (3:1:6) W.S. Prerequisite: Journalism 321. Butterworth

Theory and practice of newspaper makeup; use of type faces, pictures, typographical devices for effective newspaper design and display; newspaper analysis.

323 (171, 172). **Editing Workshop.** (3:0:9) A.W.S. Prerequisite: Journalism 322. Butterworth

Practical editing experience in responsible positions on the campus newspaper. Conferences with instructor on progress.

326 (175). **Typography and Printing Processes.** (2:2:0) W. Haymore

Study of type styles and sizes, mechanical equipment, letter-press and offset printing, engraving processes, technical aspects of publishing.

327 (177). **Printing Workshop.** (Arr.) A.W.S. Prerequisites: Journalism 326 and consent of instructor. Haymore

Supervised practice in mechanical processes of printing, including typesetting, page makeup, and presswork.

330 (130). **Newspaper Advertising.** (2:2:0) A. Staff

Organization and operation of the advertising department of the newspaper. Rates, procedures, and promotion for display and classified advertising.

331, 332, 333 (131, 132, 133). **Advertising Sales and Promotion.** (2:0:6 ea.) A.W.S. Staff

Preparation of copy and layouts, and sale of local advertising in the campus newspaper. Conferences with the instructor on advertising promotion and field work in servicing advertising accounts.

341 (141). **Radio-TV News Writing.** (3:2:2) A. Prerequisite: Journalism 211. Carle

Radio and TV news styles, types and sources; practice in writing and editing news copy for broadcast.

346, 347, 348 (146, 147, 148). **Radio-TV News Workshop.** (2:0:6 ea.) A.W.S. Prerequisite: Journalism 341. Carle

Practical projects in gathering and writing news for broadcast. For qualified students, practice in TV news filming. Conferences on news problems.

351 (149). **Radio and Television Advertising.** (5:5:0) W. L. H. Curtis

Business and advertising principles of radio and television. Survey of the commercial background of broadcasting.

356 (150). **Radio-TV Commercial Continuity Writing.** (5:5:0) S. Carle

Study of all types of commercial writing for radio and television. Practice in writing announcements, formats, promotion and production spots. Use of typewriter required.

490 (106). **Practices and Problems in Mass Communications.** (5:5:0) W. Butterworth

Comprehensive senior seminar, required of all majors, encompassing review of entire field while analyzing policies, practices, problems of the mass media as social instruments.

491 (191). **Projects in Editorial Journalism.** (Arr.) A.W.S. Prerequisite: consent of instructor. Butterworth

494 (192). **Projects in Radio-TV Journalism.** (Arr.) A.W.S. Prerequisite: consent of instructor. Carle

497 (193). **Projects in Public Relations.** (Arr.) A.W.S. Prerequisite: consent of instructor. Butterworth

Advanced Undergraduate or Graduate Courses

561 (135). Public Relations. (3:3:0) S . Butterworth
Philosophy and practice of public relations in business, governmental, educational and other institutions. Study of various publics, media and publicity methods.

564 (118). Public Opinion Polls and Surveys. (3:3:0) A. Not given 1957-58. Smith
Survey methods in opinion and attitude research: construction of questionnaires; sampling; procedures in telephone, mail, and personal interview surveys; evaluation of survey data. Application in a field project.

566 (180). Industrial Magazine Editing. (3:3:0) S. Staff
Principles and techniques of layout and design as related to the editing of magazines and special booklets; formats, titles, engraving, color utilization, and printing processes.

571 (111). Magazine Article Writing. (3:3:0) W. Butterworth
Study of non-fiction articles for general magazines, specialized publications, and newspaper sections; assignments in planning and writing articles. Criticism, analysis of manuscript markets, and help in selling articles written in the course.

Graduate Courses

671 (241). Research Methods in Mass Communications. (3:3:0) A. Butterworth

672 (242). Mass Communications and Society. (4:4:0) W. Butterworth

690 (250). Seminar in Mass Communications. (Arr.) S. Staff

691, 692, 693 (291, 292, 293). Special Studies in Journalism. (Arr.) A.W.S. Staff

694 (294). Readings in Mass Communications. (Arr.) A.W.S. Staff

699 (300). Thesis for Master's Degree. (Arr.) A.W.S. Staff

These courses also count in Journalism:

Education: Instruction 307. Motion Picture Photography. (3:3:1)
Education: Instruction 608. Radio and Television in Education. (3:3:1)
Education: Instruction 674. Methods of Teaching Journalism in Secondary Schools. (3:3:0)
Marketing 459. Advertising. (5:5:0)
Physics 177. Photography. (4:3:3)
Speech 241. Introduction to Radio and Television Broadcasting. (3:3:2)

Landscape Architecture

(See courses in Horticulture and Horticultural Specialties.)

Languages

Professors: Watkins (chairman, 326 McK), Barker(emeritus), de Jong, Lee, Nibley, Rogers.

Associate Professors: V. L. Anderson, H. D. Taylor, Wilkins.

Assistant Professors: J. R. Clark III, Valentine.

Instructors: C. D. Anderson, Gibson*, Green*, Gubler, Smithson*.

Every degree of Bachelor of Arts and Master of Arts granted by the University requires the completion of the equivalent of at least 24 hours of an approved foreign language.

For students who have had the opportunity to study a foreign language in high school, the 24-hour language requirement for the A.B. degree may be proportionately reduced for each unit of high school work completed. Students who have completed one year of secondary school language work will register for the second quarter of the language. Those with two years of high school work will register for the third quarter, unless they are given permission by the department to register for second-year college work. Students with three years of high school work will be permitted to register for the first quarter of second-year college work.

Students who have had foreign residence may, with the consent of the department, obtain up to 24 hours of special foreign language credit. This may be done in two ways: (1) by successfully completing a more advanced course in the language; (2) by passing a series of examinations administered by the department.

In French, Spanish, German, Latin, Greek, and Hebrew, the department offers programs leading to a university and departmental major or minor with the Bachelor of Arts degree. The requirement for a major is 27 hours of upper division credit. The requirement for a minor is 18 hours of upper division credit.

The department reserves the right to specify certain courses to be used toward a degree in these foreign languages. Areas that serve as minors include a second foreign language, English, one of the fine arts, history, political science, sociology, etc.

The department has one of the most modern and best equipped language laboratories in the United States. All presently available electronic recording and playback equipment is at the disposal of more than sixty students every hour, permitting a strong emphasis to be placed on the acquiring of good pronunciation. The tape library contains some of the best dramatic and poetic works in the world's chief languages.

Prospective graduate students are reminded that a second, and sometimes a third, language will be required of them in graduate school. It is advisable that work in at least one other language be started before the junior year. Graduate students who have the consent of the instructor may register for certain undergraduate literature courses.

MODERN LANGUAGES

French

The requirement for a major is 27 hours of upper division courses which must include French 321, 322, 323, 431, 432, 433, 441, 442, 443.

The requirement for a minor is 18 hours of upper division courses which must include 9 hours from the following groups: French 321, 322, 323, 431, 432, 433, 441, 442, 443.

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year French. (5:5:1 ea.) A.W.S. (G-HA) Clark, Staff

Designed for those who have had no French. Pronunciation, reading, the fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

201, 203, 205 (101, 103, 105). Second Year French Reading and Conversation. (3:3:1 ea.) A.W.S. Prerequisite: French 103 or three units of French in high school or consent of instructor. Must be taken with 202, 204, 206. Clark, Staff

202, 204, 206 (102, 104, 106). Second Year French Conversation and Grammar. 2:2:0 ea.) A.W.S. Prerequisite: French 103 or three units of French in high school. Must be taken with 201, 203, 205. Clark, Staff

Upper Division Courses

301, 302, 303 (115, 116, 117). Gospel in French. (2:2:0 ea.) A.W.S. Prerequisite: 25 hours of French or consent of instructor. Clark

Discussions of the gospel message and the reading of scripture in French. The aim of this course is to give the student practice in conversation and to widen his knowledge of the gospel.

321, 322, 323 (121, 122, 123). French Composition and Conversation. (3:3:0 ea.) A.W.S. Prerequisite: 25 hours of French or equivalent. Staff

431, 432, 433 (131, 132, 133). Masterpieces of French Literature. (3:3:0 ea.) A.W.S. (†G-HA) Prerequisite: 25 hours of French of consent of instructor. Clark

441, 442, 443 (111, 112, 113). Survey of French Literature and Culture. (3:3:0 ea.) A.W.S. (†G-HA) Prerequisite: French 203, 204, or consent of instructor. Clark

General view of the literary periods, movements, and social background, with representative readings.

491, 492, 493 (107, 108, 109). Individual Study in French. (1-3:1-3:0 ea.) A.W.S. Staff

Assignments are made to fit the individual needs of advanced students.

Graduate Courses

601 (201). French Composition and Conversation. (3:3:0) S. Clark

621 (Ling. 231.). Introduction to Romance Philology. (3:3:0) A. Clark

622 (Ling. 246). Old French Morphology and Phonology. (3:3:0) A. Clark

631 (231). Old French Literature. (3:3:0) W. Clark

633 (233). French Literature of the Renaissance. (3:3:0) S. Clark

634 (234). French Literature of the 17th Century. (3:3:0) A. Staff

635 (235). French Literature of the 18th Century. (3:3:0) W. Staff

637 (237). French Literature of the 20th Century. (3:3:0) W. Staff

641 (241). Moliere. (3:3:0) W. Clark

651 (251). French Drama of the 19th Century. (3:3:0) S. Staff

652 (252). Modern French Drama. (3:3:0) W. Clark

653 (253). French Novel of the 19th Century. (3:3:0) S. Clark

654 (254). Modern French Novel. (3:3:0) A. Staff

661 (261). Introduction to French Civilization. (3:3:0) A. Staff

691, 692, 693 (291, 292, 293). French Seminar. (2:2:0 ea.) A.W.S. Clark

699 (300). Thesis for Master's Degree. Staff

German

The requirement for a major is 27 hours of upper division courses which must include German 321, 322, 323, 431, 432, 433, 441, 442, 443.

The requirement for a minor is 18 hours of upper division courses which must include 9 hours from the following groups: German 321, 322, 323, 431, 432, 433, 441, 442, 443.

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year German. (5:5:1 ea.) A.W.S. (G-HA) Anderson, Rogers, Watkins, Gubler

Designed for those who have not had German. Pronunciation, reading, fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

201, 203, 205 (101, 103, 105). Second Year German Reading and Conversation. (3:3:1 ea.) A.W.S. Prerequisite: German 103 or three units of German in high school or consent of instructor. Must be taken with 202, 204, 206. Anderson, Rogers, Watkins, Gubler

202, 204, 206 (102, 104, 106). Second Year German Conversation and Grammar. (2:2:0 ea.) A.W.S. Prerequisite: German 103 or three units of German in high school or consent of instructor. Must be taken with 201, 203, 205. Anderson, Rogers, Watkins, Gubler

Upper Division Courses

301, 302, 303 (115, 116, 117). Gospel in German. (2:2:0 ea.) A.W.S. Prerequisite: 15 hours of German or consent of instructor. Staff

Discussions of the gospel message and the reading of scripture in German. The aim of this course is to give the student practice in conversation and to widen his knowledge of the gospel.

307, 308, 309 (167, 168, 169). Scientific German. (3:3:0 ea.) A.W.S. Anderson, Gubler

321, 322, 323 (121, 122, 123). German Composition and Conversation. (3:3:0 ea.) A.W.S. Prerequisite: 25 hours of German or equivalent. Watkins

431, 432, 433 (131, 132, 133). Masterpieces of German Literature. (3:3:0 ea.) A.W.S. (†G-HA) Prerequisite: 25 hours of German or consent of instructor. Anderson, Gubler

441, 442, 443 (111, 112, 113). Survey of German Literature and Culture. (3:3:0 ea.) A.W.S. (†G-HA) Prerequisite: German 203, 204. Watkins, Rogers

General view of literary periods, movements, and social background with representative readings.

491, 492, 493 (107, 108, 109). Individual Study in German. (1-3:1-3:0 ea.) A.W.S. Staff

Assignments are made to fit the individual needs of advanced students.

Advanced Undergraduate or Graduate Courses

541 (241). Lessing. (3:3:0) A. Rogers

542 (242). Schiller. (3:3:0 W. Rogers

543 (243). Goethe. (3:3:0) S. Rogers

Graduate Courses

601 (201). German Composition and Conversation. (3:3:0) A. Watkins

637 (237). Contemporary German Literature. (3:3:0) A. Anderson, Rogers

651 (251). The German Drama. (3:3:0) A. Anderson

654 (254). The German Novel. (3:3:0) W. Anderson

656 (256). The German Novelle. (3:3:0) S. Anderson

658 (258). German Lyric Poetry. (3:3:0) W. Rogers

661 (261). Cultural History of Germany. (3:3:0) W. Watkins

666 (Ling. 266). Gothic and Introduction to Comparative German Philology. (5:5:0) W. Watkins

667 (Ling. 267). Old High German and Old Saxon. (3:3:0) W. Watkins

668 (Ling. 268). Middle High German. (3:3:0) A. Watkins

691 (Ling. 291). Seminar in Philology. (2:2:0) S. Watkins

694 (294). Seminar in Literature. (2:2:0) S. Staff

699 (300). Thesis for Master's Degree. Staff

Italian

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year Italian. (5:5:0 ea.) A.W.S. (G-HA) Gibson, Watkins

Special attention to accurate pronunciation for benefit of students of music and art for whom Italian has special interest and value. Grammar and graded reading.

201, 203, 205 (101, 103, 105). Second Year Italian. (3:3:1 ea.) A.W.S. Prerequisite: Italian 103 or two units of Italian in high school. Watkins

202, 204, 206 (102, 104, 106). Second Year Italian. (2:2:0 ea.) A.W.S. Prerequisite: Italian 103 or three units of Italian in high school. Watkins.

Upper Division Courses

431, 432, 433 (111, 112, 113). Masterpieces of Italian Literature. (3:3:0 ea.) (†G-HA) Prerequisites: Italian 105, 106, or consent of instructor. Watkins

Extensive and intensive reading from Italian masterpieces.

491, 492, 493 (107, 108, 109). Individual Study in Italian. (1-3:1-3:0 ea.) A.W.S. Watkins

Assignments made to fit the individual needs of the advanced students.

Japanese

Upper Division Courses

101, 102, 103 (1, 2, 3). First Year Japanese. (5:5:1 ea.) A.W.S. (G-HA) **Staff**

Constant study of the writing systems. Fundamentals of grammar and the building of a substantial vocabulary. Easy conversation and composition throughout.

201, 203, (101, 103, 105). Second Year Japanese. (3:3:0 ea.) A.W.S. Prerequisite: Japanese 103 or consent of instructor. Staff

202, 204, 206 (102, 104, 106). Second Year Japanese. (2:2:0 ea.) A.W.S. Prerequisite: Japanese 103 or consent of instructor. Staff

Assignments made to fit the individual needs of advanced students.

Upper Division Course

491, 492, 493 (107, 108, 109). Individual Study in Japanese. (1-3:1-3:0 ea.) A.W.S. Staff

Assignments made to fit the individual needs of advanced students.

Portuguese

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year Portuguese. (5:5:1 ea.) A.W.S. (G-HA) **de Jong**

A beginning course. Pronunciation, conversation, reading, and fundamentals of grammar. Special attention to Portuguese as the language of Brazil.

201, 203, 205 (101, 103, 105). Second Year Portuguese. (3:3:1 ea.) A.W.S. Prerequisite: Portuguese 103 or three units of Portuguese in high school. **Staff**

202, 204, 206 (102, 104, 106). Second Year Portuguese. (2:2:0 ea.) A.W.S. Prerequisite: Portuguese 103 or two units of Portuguese in high school. Staff

Upper Division Courses

321, 322, 323 (121, 122, 123). Portuguese Composition and Conversation. (3:3:0 ea.) A.W.S. Prerequisites: Portuguese 104 and 106; 25 hours of Portuguese or the equivalent. **de Jong**

431, 432, 433 (111, 112, 113). Masterpieces of Brazilian and Portuguese Literature. (3:3:0 ea.) A.W.S. (†G-HA) Prerequisites: Portuguese 105 and 106 or consent of instructor. de Jong

491, 492, 493 (107, 108, 109). Individual Study in Portuguese. (1-3:1-3:0 ea.)

Assignments are made to fit the individual needs of advanced students.

Graduate Courses

601, 602, 603 (201, 202, 203). Portuguese Composition and Conversation. (3:3:1 ea.) A.W.S. de Jong

631 (231). Introduction to Portuguese Literature. (3:3:0) A. de Jong

632 (232). Portuguese Literature. (3:3:0) W. de Jong

633 (233). Contemporary Portuguese Literature. (3:3:0) S. de Jong

655 (255). Introduction to Brazilian Literature. (3:3:0) A. de Jong

656 (256). Brazilian Literature. (3:3:0) W. de Jong

657 (257). Contemporary Brazilian Literature. (3:3:0) S. de Jong

694 (294). Portuguese Seminar. (3:3:0) de Jong

696 (296). Individual Study. (1-3:1-3:0) Staff

699 (300). Thesis for Master's Degree. (1-6:1-6:0) Staff

Russian

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year Russian. (5:5:1 ea.) A.W.S. (G-HA) Gubler

Designed for those who have had no Russian. Pronunciation, reading, fundamentals of grammar, and building of a substantial vocabulary.

201, 203, 205 (101, 203, 105). Second Year Russian. (3:3:1) A.W.S. Prerequisite: Russian 103. **Gubler**

Readings in Russian literature.

202, 204, 206 (102, 104, 106). Second Year Russian. (2:2:0 ea.) A.W.S. Prerequisite: Russian 103. Gubler

Upper Division Courses

431, 432, 433 (111, 112, 113). Masterpieces of Russian Literature. (3:3:0 ea.) A.W.S. (†G-HA) Prerequisites: Russian 205, 206 or consent of instructor. Gubler

491, 492, 493 (107, 108, 109). Individual Study in Russian. (1-3:1-3:0 ea.) A.W.S. Gubler

Assignments are made to fit individual needs of advanced students.

Spanish

The requirement for a major is 27 hours of upper division courses which must include Spanish 321, 322, 323, 431, 432, 433, 441, 442, 443. Spanish 451, 452, 453 are strongly recommended.

The requirement for a minor is 18 hours of upper division courses which must include 9 hours from the following groups: Spanish 321, 322, 323, 431, 432, 433, 441, 442, 443.

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year Spanish. (5:5:1 ea.) A.W.S. (G-HA) Taylor, Valentine, Wilkins, Staff

Designed for those who have not had Spanish. Pronunciation, reading, and fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

201, 203, 205 (101, 103, 105). Second Year Spanish Reading and Conversation. (3:3:1 ea.) A.W.S. Prerequisite: Spanish 103 or three units of Spanish in high school or consent of instructor. Must be taken with 202, 204, 206. Taylor, Valentine, Wilkins, Staff

202, 204, 206 (102, 104, 106). Second Year Spanish Conversation and Grammar. (2:2:0 ea.) A.W.S. Prerequisite: Spanish 103 or three units of Spanish in high school or consent of instructor. Must be taken with 201, 203, 205. Taylor, Valentine, Wilkins, Staff

Upper Division Courses

301, 302, 303 (115, 116, 117). **Gospel in Spanish.** (2:2:0 ea.) A.W.S. Prerequisite: 25 hours of Spanish or consent of instructor. Valentine

Discussions of the gospel message and the reading of the scriptures in Spanish. The aim of this course is to give the student practice in coversation and to widen his knowledge of the gospel.

321, 322, 323 (121, 122, 123). **Spanish Composition and Conversation.** (3:3:0 ea.) A.W.S. Prerequisites: Spanish 203, 204. Valentine

431, 432, 433 (131, 132, 133). **Masterpieces of Spanish and Spanish-American Literature.** (3:3:0 ea.) A.W.S. (†G-HA) Prerequisite: 25 hours of Spanish or consent of instructor. Valentine, Taylor, Wilkins

441, 442, 443 (111, 112, 113). **Survey of Spanish Literature and Culture.** 3:3:0 ea.) A.W.S. (†G-HA) Prerequisites: Spanish 203, 204 or consent of instructor. Taylor

451 (157). **Introduction to Spanish-American Literature and Culture.** (3:3:0) A. Wilkins

452 (158). **Modern Mexican Novel.** (3:3:0) W. Prerequisites: Spanish 205, 206, or consent of instructor. Wilkins

453 (159). **Modern South American Novel.** (3:3:0) S. Prerequisites: Spanish 205, 206, or consent of instructor. Wilkins

Lectures on and class discussion of nineteenth and twentieth century South American novels.

491, 492, 493 (107, 108, 109). **Individual Study in Spanish.** (1-3:1-3:0 ea.) A.W.S. Staff

Assignments are made to fit the individual needs of advanced students.

Advanced Undergraduate or Graduate Students

561 (151). **Drama of the 20th Century in Spain.** (3:3:0) W. Prerequisites: Spanish 205, 206, or consent of instructor. Taylor

571 (171). **Spanish Seminar.** (3:3:0) S. Prerequisite: consent of department head. Taylor, Valentine, Wilkins

Research problems for advanced students.

Graduate Courses

601 (201). **Spanish Composition and Conversation.** (3:3:0) A. Taylor, Wilkins

621 (231). **Medieval Literature.** (3:3:0) A. Prerequisite: Spanish 433 or equivalent. Taylor

622 (236). **Spanish Literature of the 19th Century.** (3:3:0) W. Prerequisite: Spanish 443 or equivalent. Taylor

623 (237). **Literature of the 20th Century in Spain.** (3:3:0) W. Prerequisite: Spanish 443 or equivalent. Taylor

631 (261). **Hispanic American Civilizations of the Colonial Period.** (3:3:0) A. Valentine

632 (262). **Hispanic American Civilizations of the Modern Period.** (3:3:0) W. Valentine

633 (263). **Hispanic American Essay.** (3:3:0) S. Wilkins

651 (Ling. 251). **History of the Spanish Language.** (3:3:0) W. Clark

655 (255). **Spanish-American Poetry.** (3:3:0) S. Valentine

661 (251). Drama of the 20th Century in Spain. (3:3:0) S. Prerequisite: Spanish 443 or equivalent. Taylor

665 (233). Drama of the Spanish Golden Age. (3:3:0) W. Prerequisite: Spanish 443 or equivalent. Taylor

667 (New). Drama in Spanish America. (3:3:0) A. Prerequisite: Spanish 443 or equivalent. Wilkins

671 (252). Spanish Novel of the 19th Century. (3:3:0) A. Prerequisite: Spanish 443 or equivalent. Taylor

675 (232). Cervantes' Don Quixote. (3:3:0) (Not given this year.) Prerequisite: Spanish 443 or equivalent. Valentine

681 (New). Short Story in Spanish America. (3:3:0) W. Prerequisite: Spanish 443 or equivalent. Wilkins

694 (294). Spanish Seminar. (3:3:0) A.W.S. Valentine, Taylor, Wilkins
699 (300). Thesis for Master's Degree. Staff

CLASSICAL LANGUAGES

Latin

For Major and Minor Requirements Consult Department Chairman

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year Latin. (5:5:0 ea.) A.W.S. (G-HA) Clark

Designed for those who have not had Latin. Mastery of pronunciation, declensions, and conjugations. Correlation of Latin originals with English derivatives. Graded reading. Characteristics of Roman civilization.

201, 203, 205 (101, 103, 105). Second Year Latin. (3:3:0 ea.) A.W.S. Prerequisite: Latin 103 or three units of Latin in high school. Clark

Readings from Caesar, Livy, etc., with a review and continuation of grammar.

202, 204, 206 (102, 104, 106). Second Year Latin. (2:2:0 ea.) A.W.S. Prerequisite: Latin 103. Clark

Latin grammar.

Upper Division Courses

340 (140). Pre-Legal Latin. (3:2:0) A. Clark

Recommended for pre-legal students. Admission by consent of instructor.

341, 342 (141, 142). Pre-Medical Latin and Greek. (3:2:0 ea.) W.S. Clark

Recommended for pre-medical students. Admission by consent of instructor.

491, 492, 493 (107, 108, 109). Individual Study. (1-3:1-3:0 ea.) A.W.S. Clark

Graduate Courses

667, 668, 669 (267, 268, 269). Cicero, Virgil; Latin Style and Composition. (3:3:0 ea.) A.W.S. Clark

677, 678, 679 (277, 278, 279). Horace; the Latin Poets; the Latin Dramatists. (3:3:0 ea.) A.W.S. Clark

681, 682, 683 (281, 282, 283). The Latin Fathers. (3:3:0 ea.) A.W.S. Prerequisite: consent of instructor. Nibley

699 (300). Thesis for Master's Degree. Staff

Greek

For Major and Minor Requirements Consult Department Chairman

Lower Division Courses

101, 102, 103 (1, 2, 3). Elementary Greek. (5:5:0 ea.) (G-HA) Nibley

Graduate Courses

664, 665, 666 (264, 265, 266). Advanced Readings in Greek. (3:3:0 ea.) A.W.S. Prerequisite: consent of instructor. Nibley

667, 668, 669 (267, 268, 269). The Greek New Testament. (3:3:0 ea.) A.W.S. Prerequisite: one year of Greek. Nibley

671, 672, 673 (271, 272, 273). Individual Study in Greek. (2-3:2-3:0 ea.) A.W.S. Nibley

677, 678, 679 (277, 278, 279). Greek Prose Writers. (2-3:2-3:0 ea.) A.W.S. Prerequisite: two years of Greek. Nibley

699 (300). Thesis for Master's Degree. Staff

Semitics

Hebrew, Aramaic, Akkadian, Egyptian

For Semitic languages other than Arabic, see Division of Religion, Semitic Languages. The courses in Semitic languages carry credit in religion and fulfill the language requirements for the A.B. degree.

Lower Division Courses

101, 102, 103 (1, 2, 3). First Year Arabic. (5:5:1 ea.) A.W.S. (G-HA) Nibley
The modern spoken language. Designed for those who have had no Arabic.

Graduate Courses

(See Division Religion for courses in Hebrew, Aramaic, Syriac, Akkadian and Egyptian.)

Linguistics

Lower Division Course

160 (60). Practical Phonetics. (3:3:0) A.W.S. de Jong
Elementary principles of speech mechanics in their relation to correct diction.

Upper Division Course

360 (160). Advanced Phonetics. (3:3:0) W. de Jong

Graduate Course

601 (201). Introduction to Linguistics. (3:3:0) S. Staff

Latin

(See courses in Languages and Religion.)

L.D.S. Church Organization and Administration

(See courses in Religion.)

Library Science

Knight (chairman, Library Reference Room).

Instructors: Berry, Brace, Chandler, Flake, R. Hansen, G. D. Jenson, Purdy, Thorne.*

The library science program is organized to fill the needs of school and public libraries, teachers, students who wish to become familiar with library use, and those who wish to do advanced study in a professional library school. All of the following courses will be taught one or more times during a two-year period, including summer sessions.

Students wishing to take a minor (20 credit hours) in library science should plan to take courses 111, 350, 351, and 363. Other courses may be chosen according to the professional interests of the student.

Lower Division Courses

111 (11). Use of Books and Libraries. (2:2:0) A.W.S. Staff
Efficient use of library materials; card catalog; use of general reference books (bibliographies, dictionaries, encyclopedias, and indexes); and making of bibliographies.

Upper Division Courses

350 (150). Classification. (3:3:0) W. Jenson
Devoted to theory and principles governing classification of books according to the Dewey Decimal system. Practical problems in classifying books.

351 (151). Cataloging. (3:2:2) W. Jenson
Elementary cataloging of books. Author, subject and title entries. Laboratory period cataloging materials for school and public libraries. Must be able to type. Both Library Science 350 and 351 must be taken to receive credit for either.

363 (163). Library Science for Teachers and Administrators. (3:3:0) A. Knight
Organization and use of school libraries. Units on book selection and use of reference books. (Library Science 350, 351 and 363 fill creditation requirements for school libraries.)

370 (170). Introduction to Bibliography. (3:3:0) A.W. Staff
Intensive study of content and use of reference books such as encylopedias dictionaries, indexes, yearbooks, bibliographies, atlases, and biographies. Bibliography form stressed. Reference department serves as a laboratory.

Advanced Undergraduate or Graduate Courses

563 (263). Modern Library Practices. (3:3:0) Not given this year. Staff

565 (165). Selection and Use of Library Materials for the Elementary Schools. (3:3:0) W. Staff
Library service in elementary schools considered as it concerns selection, acquisition, and use of materials—books, periodicals, (pictures, etc. Units on story telling and library instruction.

567 (167). Selection and Use of Library Materials for the Secondary School (3:3:0) S. Staff
Critical survey of literature for young people—reading guidance, book selection and reviewing. Selection and use of library materials as they relate to the curriculum.

571 (271). **Bibliography of the Sciences.** (3:3:0) Not given this year. Staff

572 (272). **Bibliography of the Humanities.** (3:3:0) Not given this year. Staff

573 (273). **Bibliography of the Social Sciences.** (3:3:0) Not given this year. Staff

590 (290). **History of Books and Development of Libraries in Our Civilization.** (3:3:0) Not given this year. Staff

Graduate Course

650 (250). **Problems in Acquisition and Organization of Library Materials.** (3:3:0) Not given this year. Staff

These courses also count in Library Science:

Education: Instruction 305. Audio-Visual Education. (3:3:1)
Education: Instruction 340. Children's Literature. (3:3:0)

Linguistics

(See courses in Languages.)

Marketing

Professors: W. J. Taylor (chairman, 159 N), C. S. Boyle (emeritus), R. L. Smith.

The marketing course is designed to prepare students for positions of management and executive responsibility in the fields of retailing, wholesaling, advertising, selling, sales management, industrial marketing and market research.

These goals are achieved by (1) providing computational skills and factual knowledge related to business management, (2) practice in the solution of actual case problems and in defending such solutions orally and in writing, (3) developing for the student as part of his classwork personal and working relationships with business executives on a local and a national level.

Required Courses and Suggested Sequence for Majors in Marketing

Freshman and Sophomore Years

	Hours
General University Requirements	
English* (composition)	9
Physical education	3
Health education	1
Physical science	9
Biological science	8
Social science (History 170 or equivalent)	5
Religion	12
Total Hours	57
Preparation Courses for Major	
Accounting 101, 102 or 201, 202, and 230	15
Economics 101*, 231	10
Psychology 111*	5
Total Hours	30
Grand Total	87
Electives possible for students carrying 18 hours per quarter	21

*Apply toward general requirements.

Junior Year

	Hours
General Requirements	
Religion	6
Humanities and aesthetics	5
Total Hours	11
Courses Required for Majors from Other Departments	
Industrial Management 332	5
Industrial Management 340	5
Economics 345	5
Finance and Banking 348	5
Psychology 335 or 205	3
Total Hours	28
Major Requirements	
Marketing 347	5
Marketing 351	3
Marketing 470	1
Total Hours	9
Grand Total	48
Electives possible for students carrying 18 hours per quarter	6

Senior Year

	Hours
General Requirements	
Religion	6
Total Hours	6
Major Requirements	
Marketing 457, 458*, 459	15
Marketing 465*, 468	10
Marketing 471	1
Total Hours	21
Grand Total	27

*Students are required to take only one of these courses.

Electives possible for students carrying 18 hours per quarter	27

Elective Courses Recommended
- Industrial Mgt. 587, 588, 589
- Economics 274, 575
- Finance and Banking 451, 453
- Business Educ. and Office Mgt. 220

Upper Division Courses

347 (107). Principles of Marketing. (5:5:0) A.W.S. Staff

Basic marketing principles are developed in analyzing functions and problems of business management in distributing goods. Includes treatment of agriculture, manufacturing, wholesalers and retailers.

351 (151). Economics of Consumption. (3:3:0) A.W. Boyle

Views the market in terms of its efficiency in providing the consumer with maximum satisfaction for cost. The consumer's view is emphasized throughout.

457 (157). Problems in Marketing. (5:5:0) A.W. Prerequisite: Marketing 347. Taylor

Students are given marketing management problems for solution. Analyses are made of actual and case problems. Solutions are presented in written and oral form.

458 (158). Retail Store Management. (5:5:0) W.S. Prerequisite: Marketing 347. Staff

Problems confronting management of retail stores are analyzed. Problems treated are drawn from case histories, business contracts and textbook. Written reports are required.

459 (159). Advertising. (5:5:0) A.S. Taylor, Staff

Principles of the entire field of advertising are treated: fundamentals of good copy, visualization, layout, research. The planning and execution of complete campaign are included.

465 (165). Sales Management. (5:5:0) A.S. Boyle

Deals in problems about the methods of selecting, training, and paying salesmen; the technique of making area quota surveys; and sales planning necessary to fit a sales organization to the market most efficiently. The principles of managing a sales force are also treated.

468 (108). Fundamentals of Selling and Administration. (5:5:0) A.S. Taylor

Treats selling as a skill in human relations used on all business levels whether dealing with customers or associates within an administrative unit.

470, 471 (170, 171). Lectures on Executive Policy. (1:2:0 ea.) S. Staff

Top executives from throughout the nation visit the campus and meet students in a series of lectures dealing with subjects significant to executive leadership.

Advanced Undergraduate or Graduate Courses

504 (204). Advanced Marketing Problems. (Arr.) A.WS. Prerequisite: Marketing 347. Staff

505 (205). Special Problems in Retailing. (Arr.) A.W.S. Prerequisite: Marketing 458. Staff

506 (206). Special Problems in Marketing and Marketing Analysis. (Arr.) A.W.S. Prerequisites: Marketing 347, Economics 231. Staff

585 (285). Techniques and Practice of Market Research. (3:3:0) A.W.S. Prerequisites: Marketing 347, Economics 231. Staff

Graduate Course

699 (300). Thesis for Master's Degree.

These courses also count in Marketing:

Agricultural Economics 320. Cooperative Marketing. (3:3:0)

Agricultural Economics 410. Marketing Livestock Products. (3:3:0)

Art 110. Theory and Practice of Design. (2:2:2)
Art 239, 249. Commercial Art. (2:0:2; 2:2:2)
Art 340. Lettering. (2:2:2)
Art 341. Layout. (2:2:2)
Clothing and Textiles 260. Textiles. (3:3:3)
Clothing and Textiles 370. Economics of Clothing and Household Textiles. (2:2:0)
Economics 556. Transportation and Traffic Management. (5:5:0)
Geography 223. Geography of Economic Products. (3:3:0)
Industrial Management 469. Personnel Management. (5:5:0)
Industrial Management 587, 588, 589. Problems in Business Management. (3:3:0 ea.)
Journalism 351. Radio and Television Advertising. (5:5:0)

Management

(See courses in Industrial Management and Economics and Management of the Home.)

Mathematics

Professors: M. Marshall (chairman, 281 ESC)
Associate Professor: Harvey Fletcher, Jr.
Assistant Professors: McNamara, Olpin, D. W. Robinson, Stoddard.
Instructors: Dean, Haupt, Nielsen.

Students majoring in mathematics are required to complete 27 upper division credit hours in mathematics which must be approved by the chairman of the department.

Students minoring in mathematics are required to complete Mathematics 234 and 3 hours of upper division credit hours in mathematics.

For entrance requirements into the College of Physical and Engineering Sciences see page 128 of this catalog.

A student desiring to teach in the secondary schools with mathematics as his specialization must have only 9 hours of upper division credit hours, but must have 33 hours of education courses as listed on page 203. In this case, his degree will be in education rather than in mathematics. A student may get a degree in mathematics and also a teaching certificate by taking 27 hours of upper division mathematics and 33 hours of required professional educational courses.

Suggested Sequence of Courses

Freshman Year

	A	W	S
Mathematics 231, 232, 233	5	5	5
English 111, 112, 113	3	3	3
Chemistry 111, 112	5	5	
Zoology 105 or Botany 101			5
Physical education	1	1	1
Health 130		1	
Religion	2	2	2
	16	17	16

Sophomore Year

	A	W	S
Mathematics 234, 235	3	3	
Mathematics 339 or 347			3
Physics 211, 212, 213	5	5	5
History 170		5	
Social science			5
Biological science	5		
Elective	2	2	2
Religion	2	2	2
	17	17	17

Junior Year

	A	W	S
Mathematics 371, 372, 373 or 321, 322, 323	3	3	3
Mathematics 307			3
German 101, 102, 103	5	5	5
Philosophy 310			3
English literature	4		
Social science		5	
Elective	2	2	2
Religion	2	2	
	16	17	16

Senior Year

	A	W	S
Mathematics 541, 542, 543	3	3	3
Physics 321, 322, 323	4	4	4
German 307, 308, 309	3	3	3
Philosophy 511	3		
Elective	3	5	5
Religion		2	2
	16	17	17

Remedial Course

51 (X). **Plane Geometry.** (0:5:0) A. **Staff**
Equivalent to one year of high school plane geometry.

Lower Division Courses

101 (1). **Intermediate Algebra.** (5:5:0) A.W.S. **Staff**
Prescribed for students who have had less than one and one-half years of high school algebra.

103 (3). Solid Geometry. (3:3:0) A.W.S. Not given this year. Staff
Equivalent to one semester of high school solid geometry.

111 (11). College Algebra. (5:5:0) A.W.S. Prerequisite: Mathematics 101 or its equivalent. Staff

112 (12). Plane Trigonometry. (5:5:0) A.W.S. Prerequisite: Mathematics 101 or its equivalent. Staff

135 (35). Mathematics of Business. (3:3:0) Not given this year. Staff
Application of algebra to general business problems: annuities, amortization, capitalization, depreciation, sinking fund, bond values, and building and loan associations.

231, 232, 233 (13, 91, 92). Analytic Geometry and Calculus. (5:5:0 ea.) A.W.S. Staff
Coordinate geometry, introduction to differential and integral calculus, and applications of calculus.

234 (93). Calculus and Differential Equations. (5:5:0) A. Staff
Systematic treatment of integration and an introduction to ordinary differential equations.

Upper Division Courses

307 (New). History of Mathematics. (3:3:0) A. Robinson
A study of the development of mathematics with emphasis on the personalities behind it.

315, 316, 317 (105, 106, 107). Engineering Mathematics. (3:3:0 ea.) A.W.S. Staff
Ordinary and partial differential equations. Fourier series, complex analysis, LaPlace transform, and vector analysis.

321, 322, 323 (161, 162, 163). Introduction to Statistics. (3:3:0 ea.) A.W.S. Staff
Basic probability theory and introduction to the theory, methods, and applications of statistics.

334 (111). Introduction to Differential Equations. (3:3:0) A. Staff
Introduction to ordinary differential equations with applications.

335 (112). Differential Equations. (3:3:0) W. Staff
Systematic treatment of ordinary differential equations and introduction to partial differential equations.

339 (113). Vector Analysis. (3:3:0) S. Staff
Vector analysis as applied to physics and the engineering sciences.

347 (131). Theory of Equations. (3:3:0) W. Robinson
Elementary properties and solutions of algebraic equations.

371, 372, 373 (New). Introduction to Abstract Algebra. (3:3:0 ea.) A.W.S. Robinson
Basic algebraic concepts, particular number systems, and abstract algebraic systems.

387 (New). Theory of Numbers. (3:3:0) S. Robinson
Foundations of number theory, congruences, residues, reciprocity law, and diophantine equations.

Advanced Undergraduate or Graduate Courses

541, 542, 543 (191, 192, 193). Advanced Calculus. (3:3:0 ea.) A.W.S. Stoddard
Advanced treatment of differential and integral calculus.

Graduate Courses

617, 618, 619 (221, 222, 223). **Mathematical Physics.** (3:3:0 ea.) A.W.S. Staff

631, 632, 633 (231, 232, 233). **Complex Analysis.** (3:3:0 ea.) A.W.S. Robinson

641, 642, 643 (201, 202, 203). **Functions of a Real Variable.** (3:3:0 ea.) A.W.S. Fletcher

647, 648, 649 (211,212, 213). **Partial Differential Equations.** (3:3:0 ea.) Not given this year. Staff

671, 672, 673 (New). **Modern Algebra.** (3:3:0 ea.) A.W.S. Robinson

681, 682, 683 (New). **Linear Algebra.** (3:3:0 ea.) Not given this year. Staff

695 (292, 293, 294). **Readings in Mathematics.** (1-3:1-3:0) Staff

699 (300). **Thesis for Master's Degree.** Staff

These courses also count in Mathematics:

Physics 321, 322, 323. Theoretical Mechanics. (4:4:0 ea.)

Mechanical Engineering Science

Associate Professors: Baxter (chairman, 126 ELB), Simonsen.
Assistant Professor: B. Andersen.

This department offers a five-year program leading to the degree of Bachelor of Engineering Science in Mechanical Engineering. The student completing the prescribed course of study will receive a broad and comprehensive training in mechanical engineering, in addition to the general and religious education given to all undergraduate students at Brigham Young University.

Entrance Requirements

In addition to having fulfilled the general entrance requirements of the University, described on page 71, a student entering this department must have completed successfully 3 units of high school mathematics which must include elementary algebra, intermediate algebra and plane geometry, and three units of English.

Students who have not met these requirements must take extra remedial courses as prescribed by the chairman of this department before or concurrently with the regular course of study outlined below.

Requirements for Major

To obtain a degree the student must complete the course described below. The following abbreviations are used in the description: Ch.E., for Chemical engineering; C.E., for civil engineering; E.E., for electrical engineering; G.E., for geological engineering; and M.E., for mechanical engineering.

Grade Requirements

A student must have received an average grade of "C" or better in calculus and physics before being admitted as a regular third-year student in the department. A student who has not obtained this average may petition for special consideration. If he is admitted, it will be on a probationary basis subject to periodic review. If his work subsequently proves unsatisfactory, he will be dropped from the department.

In addition to the regular university academic requirements, a grade of "C" or higher is required in all prescribed courses taken after being admitted as a third-year student. If a grade lower than "C" is received in any prescribed course, the course must be repeated.

General Education Group Requirements

The general education requirements are listed on page 75 together with the elective subjects which the student may select. Group I is automatically filled by following the course described below. Any course listed in the general education requirements is acceptable for filling the remaining groups. The student will observe that allowance has been made for only 69 hours of general group subjects within the formal program. This implies that he must usually take advantage of the possibility of cross-referencing six hours of credit between the humanities and aesthetics group and the religion group requirement.

Students in the AFROTC program may substitute three hours of air science for the required three hours of physical education. In addition, they may substitute three hours of air science for any of the general education requirements. These substitutions will be accepted as satisfying the graduation requirements **only** if the student completes the AFROTC program.

Suggested Course Outline

First Year

(Common to all engineering science courses)

	A	W	S
Chemistry 111, 112*	5	5	5
Mathematics 111, 112, 231	5	5	5
English 111, 112, 113 or 115, 116	3	3	3
Religion	2	2	2
Physical education	1	1	1
Health education		1	
Group elective			5
M.E. 100	1		
Total Hours	17	17	16

*Students not having the proper entrance requirements in mathematics may schedule Chemistry 111 and 112 during the Winter and Spring Quarters.

Second Year

(Common to all engineering science courses)

	A	W	S
Mathematics 232, 233, 234	4	4	4
Physics 211, 212, 213	5	5	5
Religion	2	2	2
C.E. 201, 202, 203	2	3	3
Group electives	5	3	3
Total Hours	18	17	17

Third Year

	A	W	S
C.E. 301, 302, 303	5	5	5
M.E. 320, 321, 322	4	3	5
M.E. 360		2	
Mathematics 315, 316, 317	3	3	3
Chem. 278, 379		3	2
Religion	2	2	2
Group electives	3		
Total Hours	17	18	17

Fourth Year

	A	W	S
C.E. 401		3	
Geology 110		4	
M.E. 410	4		
M.E. 411			3
M.E. 430, 431, 432	4	3	5
M.E. 441			3
M.E. 460, 461	2	2	
E.E. 301, 302, 303	4	4	4
Group elective (cross reference with religion)	3		
Total Hours	17	16	15

Fifth Year

	A	W	S
M.E. 535	3		
M.E. 550	1		
M.E. 590			1
Industrial Management 340		5	
Restricted electives	6	6	6
Group electives	5	5	6
Total Hours	15	16	13

Restricted Electives

Three credit hours: M.E. 520, 522, 531, 551, 552, 571, 572, 583, 585, 587, 599, 610, 635, 641.

Four credit hours: M.E. 581.

The student will consult the department head for courses in other departments which may be offered as restricted electives.

Lower Division Course

100 (1). Engineering Orientation. (1:1:0) A.W.S. **Staff**

Introduction to the fields and profession of engineering. Required for all freshman engineering students.

Upper Division Courses

320 (120). Thermodynamics I. (4:4:0) A. Prerequisites: Mathematics 234, Physics 212. **Staff**

First law and applications, thermodynamic systems, properties of gases, liquids, and vapors. Second law and applications, entropy; properties of gaseous mixtures, fluid flow; combustion.

321 (121). Thermodynamics II. (3:3:0) W. **Staff**

Continuation of M.E. 320.

322 (122). Thermodynamics Applications. (5:5:0) S. **Staff**

Continuation of M.E. 321, including gas and vapor cycles and applications to machinery; refrigeration; compression of gases; air-water vapor mixtures.

327 (123). Elements of Thermodynamics. (4:4:0) A. Prerequisites: Mathematics 234, Physics 212. Staff

First and second laws; properties of systems; thermodynamics of gases and vapors; applications to thermodynamic cycles. Designed for students not majoring in mechanical engineering.

330 (130). Mechanisms. (3:2:3) S. Prerequisite or parallel: Civil Engineering 302. Staff

Motions and velocities of machine parts. For students not majoring in mechanical engineering.

360 (124). Thermodynamics Laboratory I. (2:1:3) W. Prerequisite: Mechanical Engineering 320. Staff

Instruments for measuring pressure, temperature, speed power, and area; flow meters; technical report writing.

367 (127). Elements of Thermodynamics Laboratory. (1:0:3) A.W.S. Staff

Laboratory to follow Mechanical Engineering 327.

410 (110). Fluid Mechanics. (4:3:3) A.W.S. Prerequisites: Mathematics 234, Civil Engineering 302, Mechanical Engineering 320 or 323. Staff

Physical properties of fluids; fluid statics; viscous flow; dimensional analysis; incompressible flow; compressible flow; fluid meters; lift and drag; dynamic similarity; momentum, fluid machinery.

411 (112). Fluid Dynamics. (3:3:0) S. Staff

Continuation of Mechanical Engineering 410.

430 (133). Kinematics of Machines. (4:2:6) A. Prerequisite: Civil Engineering 302. Staff

Velocities and accelerations in machine parts; rolling contact; cams, gearing, flexible connectors, etc.

431 (134). Machine Design I. (3:3:0) W. Prerequisites: Mechanical Engineering 430 and Civil Engineering 303. Staff

Theory and design of machine elements; proportioning of machine parts according to the laws of mechanics and engineering materials.

432 (135). Machine Design II. (5:3:6) S. Staff

Continuation of M.E. 431.

441 (141). Heat Transfer. (3:3:0) S. Prerequisites: Mechanical Engineering 322, Mathematics 315. Staff

Fundamental principles of heat transfer by conduction, convection, and radiation.

460, 461 (125, 126). Heat Power Laboratory I, II. (2:1:3 ea.) A.W. Prerequisites: Mechanical Engineering 321, 360. Staff

Steam turbines; internal combustion engines; heat transfer; pumps; calorimetry; air compressors, refrigeration; steam generators; technical reports.

Advanced Undergraduate or Graduate Courses

520 (220). Advanced Thermodynamics.* (3:3:0) Prerequisites: Mechanical Engineering 323 and Mathematics 315. Staff

Extended treatment of the fundamentals of thermodynamics including transient conditions, equilibrium, combustion and real gases.

522 (222). Fuels and Combustion.* (3:3:0) Prerequisite: Mechanical Engineering 323. Staff

Properties of fuels; characteristics of air-fuel mixtures; combustion characteristics; calculations.

531 (New). **Special Topics in Machine Design.*** (3:3:0) Staff
Selected topics in the behavior of engineering materials and advanced mechanics of materials as applied to the design of machine members.

535 (137). **Mechanical Vibrations.** (3:3:0) A. Prerequisites: Mathematics 316, Civil Engineering 303. Staff
Fundamentals of simple vibrating systems with applications.

550 (150). **Field Inspections.** (1:0:3) A. Staff
Field trips to some of the various industrial plants in the area.

551 (151). **Time and Motion Study.*** (3:2:3) Staff
Principles of motion economy, techniques of motion and time study and their interrelationship.

552 (152). **Production and Quality Control.*** (3:3:0) Staff
Basic concepts of quantitative and qualitative control in industrial organizations of both manufacturing and service types. To include principles of materials-handling affecting the above concepts.

571 (171). **Refrigeration.*** (3:3:0) Prerequisite: Mechanical Engineering 323. Staff
Cycles and analysis; selection of systems and component parts; estimation of loads.

572 (172). **Heating, Ventilating and Air Conditioning.*** (3:3:0) Prerequisite: Mechanical Engineering 323. Staff
Heating and cooling for comfort. Design of warm air, hot water and steam heating systems for residence and commercial buildings.

581 (181). **Internal Combustion Engines.*** (4.3:3) Prerequisite: Mechanical Engineering 323. Staff
Basic principles; theoretical and actual cycles; performance characteristics.

583 (183). **Steam and Gas Turbines.*** (3:3:0). **Prerequisites: Mechanical Engineering** 323, 411. Staff
Analysis and design of nozzles, blades and other components of steam and gas turbines; cycle analysis.

585 (185). **Gas Turbine and Jet Engine Power Plants.*** (3:3:0) Prerequisites: Mechanical Engineering 323, 411. Staff
Analysis of cycles and performance of gas turbine, jet engine and rocket propulsion systems, including flow through component parts.

587 (187). **Power Plant Engineering.*** (3.3:0) Prerequisite: Mechanical Engineering 323. Staff
Analysis of power plants, including performance of prime movers, economics, and heat balance studies.

590 (190). **Mechanical Engineering Problems.** (1:0:3) S. Prerequisite: fifth year standing. Staff
Selected problems from the field which will enable the student to integrate his fundamental knowledge in their solution.

599 (New). **Undergraduate Research.** (Arr.) Prerequisite: consent of department chairman. Staff

Graduate Courses

610 (210). **Fluid Dynamics and Machinery.*** (3:3:0) Prerequisites. Mechanical Engineering 411 and Mathematics 315. Staff
Steady and unsteady flow of compressible and incompressible fluids; principles of operation of fluid dynamical machinery.

641 (225). Advanced Heat Transmission.* (3:3:0) Prerequisite: Mechanical Engineering 441. **Staff**

Extension of Mechanical Engineering 441 to include numerical and approximate methods of solution, transient problems and solution or problems by analogy methods.

635 (232). Advanced Vibration Analysis.* (3:3:0) Prerequisite: Mechanical Engineering 535. Staff

Vibration characteristics of systems with several degrees of freedom, elastic bodies, systems with transient vibrations, and simple none-linear systems.

*Offered upon approval of department chairmen and upon sufficient demand.

Medical Technology

(See College of Biological and Agricultural Sciences.)

Modern and Classical Languages

(See courses in Languages.)

Music

Professors: Halliday (chairman, 250 C), de Jong, Jepperson-Madsen (emeritus), Franklin Madsen (emeritus).

Associate Professors: Earl, Gates, Martino, Sardoni.

Assistant Professors: Buggert (emeritus), C. Cannon, Gulbrandsen, Hanson (emeritus), Keeler, H. Laycock, R. Laycock, Nordgren, Weight, R. Woodward.

Instructors: Ballou, Bos, Brownlee, Carter, Curtis, Edlefsen, Fitzroy, Fuerstner, Groesbeck, McAllister (emeritus). Nelson, Weinzinger, M. Woodward.

Music Majors

A baccalaureate degree in music can be taken with a major in applied music, music theory, or music education (secondary). The curriculum for a major in applied music or music theory leads to the Bachelor of Arts degree. The curriculum for a major in music education leads to either the Bachelor of Arts or the Bachelor of Science degree.

Music Minors

Any twenty hours in music constitutes a graduation minor.

Prospective elementary school teachers who desire a minor in music should take Music 101, 170, 190, 191, 301, 3 hours of band, orchestra, or chorus, and 4 hours of class or private piano.

Teaching Minors in Music

A—Instrumental

Prospective secondary school teachers who desire a teaching minor in instrumental music take the following courses: Music 101 or 484, 190, 301, 302; 6 hours of band or orchestra; 10 hours from the following: 160-p, 161-p, 162-p, 368, 369, 370, 371, 372, 373, 375, 376.

B—Vocal

Prospective secondary school teachers who desire a teaching minor in vocal music take the following courses: Music 101 or 484, 160-p, 161-p, 162-p, 190, 301, 302, 366, 374, 568; 4 hours of vocal ensemble.

C—Instrumental-Vocal

Prospective secondary school teachers who desire a teaching minor in instrumental and vocal music take the following courses: Music 101, 190, 301, 302, 365, 366, 368, 370; 5 hours of instrumental ensemble; 5 hours of vocal ensemble.

Degree in Applied Music

To receive a Bachelor of Arts degree with a major in applied music, a student must complete the following courses or their equivalent:

	Hours
Music 190, 191, 192, 290, 291	25
Music 301, 302, 383 (count as religion)	6
Music 484, 485	6
Private instruction on major instrument or voice	24
Ensemble	12

Majors in the various fields of applied music must take certain special classes in addition to the above requirements.

Piano majors take Music 563, 564, 565.

Organ majors take Music 390, 467, 468

Woodwind majors take Music 368, 369
Brass majors take Music 370, 371
String majors take Music 372, 373
Voice majors take Music 566, 567, 568

Majors in applied music complete four years of private instruction at Brigham Young University. At the end of each year of private instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination each candidate submits a list of his repertoire in triplicate. He also indicates compositions or studies especially prepared for the examination. This examination includes scales and arpeggios.

Majors in applied music participate in a musical ensemble each quarter of their undergraduate training. Instrumental majors participate in at least one instrumental ensemble and one vocal ensemble. Voice majors sing in at least two ensembles.

Every major in music must pass a piano proficiency examination appropriate to his degree during the first quarter of residence or take class piano or private instruction in piano until he passes the examination.

A major in applied music must accumulate at least sixty minutes of recital appearance time either as a soloist or a chamber music ensemble performer.

The following is recommended as the best sequence of courses for majors in applied music:

Freshman Year

	A	W	S
Religion	2	2	2
English	3	3	3
Physical education	1	1	1
Music 190, 191, 192	5	5	5
Music 160-, 161-, 162-p	2	2	2
Ensembles	1	1	1
Health 130		1	
Electives (Music 107, 108, 109, if needed)	2	2	2
or	3	3	3
Total Hours	16	17	16
or	17	18	17

Sophomore Year

	A	W	S
Religion	2	2	2
Language (first year)	5	5	5
Music 290, 291	5	5	
Music 260-, 261-, 262-p	2	2	2
Ensemble	1	1	1
General education requirements			5
Total Hours	15	15	15

Junior Year

	A	W	S
Religion (Mus. 301, 302, 383)	2	2	2
Language (second year)	5	5	
Music 360-, 361-, 362-p	2	2	2
Ensemble	1	1	1
General education requirements	5	6	11
Total Hours	15	16	16

Senior Year

	A	W	S
Religion	2	2	2
Music 484, 485	3	3	
Music 460-, 461-, 462-p	2	2	2
Ensemble	1	1	1
General education requirements		3	5
Electives (this must include the special music classes)	8	5	6
Total Hours	16	16	16

Degree in Music Theory

For a Bachelor of Arts degree with a major in music theory a student completes the following courses or their equivalent:

	Hours
Music 190, 191, 192, 290, 291	25
Music 301, 302, 383 (count as religion)	6
Music 390, 391	4
Music 484, 485	6
Music 580	2

	Hours
Graduate courses in music theory (Music 595, 596, 597 may be included)	15
Private instruction (specialty)	6
Ensemble	9

Majors in music theory complete one year of private instruction at Brigham Young University. This study begins in the freshman year. At the end of the year of private instruction the student takes an examination on his specialty to determine his level of achievement. If additional private study is needed to bring the student to the required proficiency, he will be informed at the annual examination. For the examination each candidate submits a list of his repertoire in triplicate. He also indicates the compositions or studies especially prepared for the examination. This examination includes scales and arpeggios.

Majors in music theory participate in a musical ensemble for a minimum of nine quarters of undergraduate training. The student performs in at least two ensembles. A student whose specialty is a band or orchestral instrument takes six hours of instrumental ensemble and three hours of choral ensemble. A student whose specialty is voice sings in at least two vocal ensembles.

Every major in music must pass the piano proficiency examination appropriate to his degree during the first quarter of residence or take class piano or private instruction in piano until he passes the examination.

The following is recommended as the best sequence of courses for majors in music theory:

Freshman Year

	A	W	S
Religion	2	2	2
English	3	3	3
Physical education	1	1	1
Music 190, 191, 192	5	5	5
Music 160-, 161-, 162-p	2	2	2
Ensemble	1	1	1
Health 130		1	
Electives (Music 107, 108, 109, if needed)	2	2	2
or	3	3	3
Total Hours	16	17	16
or	17	18	17

Sophomore Year

	A	W	S
Religion	2	2	2
Language (first year)	5	5	5
Music 290, 291	5	5	
Ensemble	1	1	1
General education requirements	3	3	8
Total Hours	16	16	16

Junior Year

	A	W	S
Religion (Music 301, 302, 383)	2	2	2
Language (second year)	5	5	
Music 390, 391	2	2	
Music 580		2	
Ensemble	1	1	1
General education requirements	5	3	13
Total Hours	15	15	16

Senior Year

	A	W	S
Religion	2	2	2
Music 484, 485	3	3	
Music theory (graduate courses)	3	3	3
Music theory (graduate courses)	3	3	
Electives	5	5	11
Total Hours	16	16	16

Degree in Music Education

Prospective secondary teachers may elect either a composite major in music or a teaching major in music with a teaching minor outside the field of music.

Both types of majors in music are available with either an instrumental or vocal emphasis. The four options are as follows:

1. Composite major: instrumental music emphasis
2. Composite major: vocal music emphasis
3. Teaching major: instrumental music
4. Teaching major: vocal music

Option 1

(Composite major: instrumental music emphasis)

	Hours
Music 190, 191, 192, 290, 291	25
Music 301, 302, 383 (count as religion)	6
Music 365, 366, 367	7
Music 368, 369, 370, 371, 372, 373*	12
Music 374, 375, 376	6
Music 484, 485	6
Private instruction (instrumental specialty)	6
Instrumental ensemble**	6
Vocal ensemble	3

*The student takes only those workshops not represented by his instrumental specialty.

**Band instrumentalists participate at least one Autumn Quarter in marching Band and one Winter Quarter in varsity band (preferably on a minor instrument).

Option 2

(Composite major: vocal music emphasis)

Music 190, 191, 192, 290, 291	25
Music 301, 302, 383 (count as religion)	6
Music 366, 367	4
Music 368, 369, 370, 371, 372, 373	15
Music 484, 485	6
Private instruction (voice)	6
Vocal ensemble	6
Instrumental ensemble	3

Option 3

(Teaching major: instrumental music)

Music 190, 191, 192	15
Music 301, 302, 383 (count as religion)	6
Music 368, 369, 370, 371, 372, 373*	12
Music 375, 376	4
Musicology 484	3
Private instruction (instrumental specialty)	6
Instrumental ensemble**	6

*The student takes only those workshops not represented by his instrumental specialty.

**Band instrumentalists participate at least one Autumn Quarter in marching band and one Winter Quarter in varsity band (preferably on a minor instrument).

Option 4

(Teaching major: vocal music)

Music 190, 191, 192	15
Music 301, 302, 383 (count as religion)	6
Music 366, 374, 568	7
Music 484, 485	6
Private instruction (voice)	12
Vocal ensemble	6

As outlined in the four options, majors in music education complete a certain number of quarters of private instruction at Brigham Young University. This study begins in the freshman year. At the end of the year the student takes an examination on his specialty to determine his level of achievement. If additional private study is needed to bring the student to the required proficiency, he will be informed. For the examination, each candidate will submit a list of his repertoire in triplicate. He also indicates the compositions or studies especially prepared for the examination. The examination includes scales and arpeggios.

Every major in music must pass a piano proficiency examination appropriate to his degree during the first quarter of residence or take class piano or private instruction in piano until he passes the examination.

A major in music education must accumulate at least twenty minutes of recital appearance time either as a soloist or chamber music performer.

Students who desire a general secondary teacher's certificate are required to take the following courses in addition to those listed under the various options. (The proper sequence is indicated.)

For details covering general teacher's certificate see general catalog page 106.

	Hours
Health 362	3
Education Research and Services 305	6
Music 377	4
Music 478	4
Music 479	7
Educational Administration 310	3
Educational Values and Programs 415	3
Education: Instruction 550	3

The following sequence of courses is recommended for those students who elect the Bachelor of Arts degree with a major in music education under Options 1 and 2 (including general secondary teacher's certificate). Recommended four-year course outlines for Options 3 and 4 are available at the Music Department office.

Freshman Year

	A	W	S
Religion	2	2	2
English	3	3	3
Physical science	3	3	3
Health 130		1	
Physical education	1	1	1
Music 190, 191, 192	5	5	5
Ensemble (major)	1	1	1
Private lessons on specialty	2	2	2
Total Hours	17	18	17

Sophomore Year

	A	W	S
Religion: Music 301, 302, 383	2	2	2
Biological science			5
Language (first year)	5	5	5
Music 290, 291	5	5	
Music 365, 366, 367, 368 369, 370, 372 (register as needed)	5	5	5
Ensemble (major)	1	1	1
Total Hours	18	18	18

Junior Year

	A	W	S
Religion	2	2	2
Biological science			3
History 170 or 180			5
Language (second year)	5	5	
Music 371	2		
Music 373	2		
Music 374, 375, 376	2	2	2
Music 377			4
Music 484, 485	3	3	
Educational Research and Services 305		6	
Total Hours	16	14	18

Senior Year

	A	W	S
Religion	2	2	2
English (literature)		3	
Biological Science			5
Social science	5		
Music 478, 479	4	7	
Ensemble (major and minor)	2	2	2
Health Education 362	3		
Educational Administration 319			3
Educational Values and Programs 415			3
Education: Instruction 550			3
Total Hours	16	14	18

The following sequence of courses is recommended for those students who elect the Bachelor of Science degree with a major in music education under Options 1 and 2 (including general secondary teacher's certificate). Recommended four-year course outlines for Options 3 and 4 are available at the Music Department office.

Freshman Year

	A	W	S
Religion	2	2	2
English	3	3	3
Physical education	1	1	1
Health 130		1	
Music 160-, 161-, 162-p	2	2	2
Music 190, 191, 192	5	5	5
Ensemble (major)	1	1	1
Electives (Mus. 107, 108, 109, if needed)	2	2	2
or	3	3	3
Total Hours	16	17	16
or	17	18	17

Sophomore Year

	A	W	S
Religion: Music 301, 302, 383	2	2	2
Physical science	3	3	3
Biological science			5
Music 290, 291	5	5	
Music 365, 366, 367, 368, 369, 370, 372 (register as needed)	5	5	5
Ensemble (major)	1	1	1
Total Hours	16	16	16

Junior Year

	A	W	S
Religion	2	2	2
History 170 or 180			5
Biological science		3	
Music 371	2		
Music 373	2		
Music 374, 375, 376	2	2	2
Music 377			4
Music 484, 485	3	3	
Ensemble (major)	1	1	1
Health education 362	3		
Educational Research and Services 305		6	
English (literature)		3	
Electives	2		
Total Hours	17	17	17

Senior Year

	A	W	S
Religion	2	2	2
Social science	5		5
English (literature)	3		
Music 478, 479	4	7	
Music ensemble (major and minor)	2	2	2
Educational Administration 310		3	
Educational Values and Programs 415			3
Education: Instruction 550			3
Total Hours	16	14	15

Lower Division Courses

101 (Mu. Gen. 1). A Survey Course in Music. (3:3:0) A.W.S. (G-HA) Wakefield, Earl

Non-technical course without prerequisite to increase appreciation and enjoyment of masterpieces of music literature of all periods through study of styles, forms, and composers, through attending and discussing lyceum presentations, and through listening to recordings.

102 (Mu. Gen. 2). Fundamentals of Music. (3:3:0) A.W.S. Groesbeck, H. Laycock

Introductory course in music fundamentals, especially designed for public school teachers.

105 (Mu. Gen. 11). Class Piano for Beginners in Music. (2:2:0) A.W.S. Staff

Minimum of one hour daily practice required outside of class. Instruction in notation of music and in keyboard technique, especially designed for prospective elementary school teachers.

106 (Mu. Gen. 12). Class Piano for Beginners in Music. (2:2:0) W.S. Prerequisite: Music. 105. Staff

Minimum of one hour daily practice required outside of class. Continuation of Music 105.

107, 108, 109 (Mu. Gen. 61, 62, 63). Group Piano Instruction. (2:2:0 ea.) A.W.S. Keeler

Not open to piano majors. Class instruction, designed for those music majors and minors who cannot pass the piano proficiency examination.

110, 111, 112 (Mu. Appl. 1, 2, 3). University Chorale. (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. R. Woodward

116, 117, 118 (Mus. Appl. 7, 8, 9). Male Chorus. (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

119, 120, 121 (Mu. Appl. 13, 14, 15). Women's Chorus. (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

122, 123, 124 (Mu. Appl. 19, 20, 21). Madrigal Singers. (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Halliday

125, 126, 127 (Mu. Appl. 25, 26, 27). A Cappella Choir. (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Weight

128, 129, 130 (Mu. Appl. 31, 32, 33). Opera Workshop. (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Earl, Curtis, Staff

131 (New). Choral Union. (0:0:2) A.W.S. Woodward

One two-hour rehearsal each week. A chorus composed of all singers belonging to the University Chorale, Male Chorus, Women's Chorus, Madrigal Singers, A Cappella Choir, and Opera Workshop. Open to any student or faculty member of the University by consent of the director. This chorus performs oratorios and sings at certain devotional assemblies, General Conference, and baccalaureate and commencement exercises.

135, 136, 137 (Mu. Appl. 43, 44, 45). Varsity and Marching Band. (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Ballou

138, 139, 140 (Mu. Appl. 49, 50, 51). Concert Band. (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. R. Laycock

141, 142, 143 (Mu. Appl. 55, 56, 57). Chamber Orchestra. (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. H. Laycock

147, 148, 149 (Mu. Appl. 67, 68, 69). Symphony Orchestra. (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Sardoni

150, 151, 152 (Mu. Appl. 73, 74, 75). Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble. (1:0:3 ea.). A.W.S. Ballou, Cannon, Earl, Edlefsen, Fuerstner, Gulbrandsen, H. Laycock, Nordgren, Sardoni, Wakefield, Weight, Weinzinger, R. Woodward

160-, 161-, 162-p (Mu. Appl. 79-, 80-, 81-p). Private Instruction. (2:1:0 ea.) A.W.S. (G-HA) Ten half-hour lessons per quarter. Special fee.

Brass: trumpet, cornet, French horn, trombone, baritone, tuba.	Ballou, R. Laycock, Martino
Harpsichord:	Wakefield
Organ:	Keeler
Percussion:	R. Laycock, Martino
Piano:	Brownlee, Cannon, de Jong, Fitzroy, Fuerstner, Gates, Keeler, Nelson, Wakefield
Recorder:	Cannon, Wakefield
Strings: violin, viola, 'cello, string bass.	H. Laycock, Buggert, Nordgren, Sardoni
Voice:	Curtis, Earl, Gulbrandsen, Halliday, Jeppersen-Madsen, F. Madsen, McAllister, Weight, Weinzinger, M. Woodard, R. Woodward
Woodwinds: flute, oboe, clarinet, bassoon, saxophone.	Bos, Edlefsen, R. Laycock

170 (Mu. Ed. 4). **Vocal Workshop.** (1:2:0) A.W.S. R. Woodward
Class instruction for beginners in vocal production.

190, 191, 192 (Mu. Th. 21, 22, 23). **First Year Harmony, Solfeggio and Keyboard Work.** (5:5:5 ea) A.W. (5:5:3) S. Students who have a deficiency in piano keyboard technique must register for Music 107 or Music 160-p (piano) simultaneously with Music 190. Brownlee, Cannon, Edlefsen, H. Laycock, R. Laycock, Weight

Tonal harmony, correlating part writing, melodic and harmonic dictation, keyboard work, sight singing, modulation, analysis, and study of simple forms.

210, 211, 212 (Mu. Appl. 4, 5, 6). **University Chorale.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. R. Woodward

216, 217, 218 (Mu. Appl. 10, 11, 12). **Male Chorus.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

219, 220, 221 (Mu. Appl. 16, 17, 18). **Women's Chorus.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

222, 223, 224 (Mu. Appl. 22, 23, 24). **Madrigal Singers.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Halliday

225, 226, 227 (Mu. Appl. 28, 29, 30). **A Cappella Choir.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Weight

228, 229, 230 (Mu. Appl. 34, 35, 36). **Opera Workshop.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Earl, Curtis, Staff

231 (New). **Choral Union.** (0:0:2) A.W.S. R. Woodward
For description see Music 131.

235, 236, 237 (Mu. Appl. 46, 47, 48). **Varsity and Marching Band.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Ballou

238, 239, 240 (Mu. Appl. 52, 53, 54). **Concert Band.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. R. Laycock

241, 242, 243 (Mu. Appl. 58, 59, 60). **Chamber Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. H. Laycock

244, 245, 246 (New). **Theatre Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Earl

247, 248, 249 (Mu. Appl. 70, 71, 72). **Symphony Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Sardoni

250, 251, 252 (Mu. Appl. 76, 77, 78). **Brass Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3 ea.) A.W.S. (See Music 150 for staff.)

260-, 261-, 262-p (Mu. Appl. 82-, 83-, 84-p). **Private Instruction.** (2:1:0 ea.) A.W.S. (G-HA) Ten half-hour lessons per quarter. Special fee. (See Music 160-p for staff.)

263, 264, 265 (Mu. Appl. 85, 86, 87). **Piano Accompanying.** (1:0:3 ea.) A.W.S. Staff

290, 291 (Mu. Th. 121, 122). **Second Year Harmony, Solfeggio, and Keyboard Work.** (5:5:2 ea.) A.W. Prerequisite: Music 192 or its equivalent.

Upper Division Courses

301 (Mu. Gen. 157). **Hymnology and Elementary Baton Technique.** (2:2:0) A.W.S. (G-HA; G-R) Staff

302 (Mu. Gen. 161). **Ward Choir Direction and Intermediate Baton Technique.** (2:2:0) A.W.S. (G-HA; G-R) Weight, R. Woodward

310, 311, 312 (Mu. Appl. 101, 102, 103). **University Chorale.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. R. Woodward

316, 317, 318 (Mu. Appl. 107, 108, 109). **Male Chorus.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

319, 320, 321 (Mu. Appl. 113, 114, 115). **Women's Chorus.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

322, 323, 324 (Mu. Appl. 119, 120, 121). **Madrigal Singers.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Halliday

325, 326, 327 (Mu. Appl. 125, 126, 127). **A Cappella Choir.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Weight

328, 329, 330 (Mu. Appl. 131, 132, 133). **Opera Workshop.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Earl, Curtis, Staff

331 (New). **Choral Union.** (0:0:2) A.W.S. Woodward
For description see Music 131.

335, 336, 337 (Mu. Appl. 143, 144, 145). **Varsity and Marching Band.** (1:0:5) A.W.S. (G-HA) Admission by consent of director. Ballou

338, 339, 340 (Mu. Appl. 149, 150, 151). **Concert Band.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. R. Laycock

341, 342, 343 (Mu. Appl. 155, 156, 157). **Chamber Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. H. Laycock

347, 348, 349 (Mu. Appl. 167, 168, 169). **Symphony Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Sardoni

350, 351, 352 (Mu. Appl. 173, 174, 175). **Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3 ea). A.W.S. (See Music 150 for staff.)

360-, 361-, 362-p (Mu. Appl. 179-, 180-, 181-p). **Private Instruction.** (2:1:0 ea.) A.W.S. (G-HA) Ten half-hour lessons per quarter. Special fee. (For staff see Music 160-p.)

364 (Mu. Ed. 107). **Music for Elementary School Teachers.** (3:3:0) A.W.S. Prerequisite: Music 102 or equivalent. Groesbeck, H. Laycock
Materials and procedures for stimulating and guiding child development in various phases of music in the elementary school. Relationship of music to the rest of the school program.

365 (Mu. Ed. 105). **Vocal Workshop I.** (3:0:5) A. R. Woodward
Course in voice building especially designed for music education majors. Survey of solo literature.

366 (Mu. Ed. 106). **Vocal Workshop II.** (2:0:4) W. Weight, R. Woodward
Problems of group singing, especially designed for music education majors. Survey of ensemble literature.

367 (New). **Percussion Workshop.** (2:0:4) W. R. Laycock, Martino
Designed to help music education majors learn to play and to teach percussion instruments. Survey of materials.

368 (Mu. Ed. 110). **Woodwind Workshop I.** (3:0:5) A. R. Laycock
Designed to help music education majors learn to play and to teach clarinet and saxophone. Survey of materials.

369 (Mu. Ed. 115). **Woodwind Workshop II.** (2:0:4) W. Prerequisite: Music 368 or the equivalent. Edlefsen
Designed to help music education majors learn to play and to teach flute, oboe, and bassoon. Survey of materials.

370 (Mu. Ed. 111). **Brass Workshop I.** (3:0:4) A. Ballou
Designed to help music education majors learn to play and to teach trumpet, baritone horn, and French horn. Survey of materials.

371 (Mu. Ed. 116). **Brass Workshop II.** (2:0:4) A. Prerequisite: Music 340 or the equivalent. R. Laycock
Designed to help music education majors learn to play and to teach trombone and tuba. Survey of materials.

372 (Mu. Ed. 112). **String Workshop I.** (3:0:5) S. Nordgren
Designed to help music education majors learn to play and to teach violin. Survey of materials.

373 (Mu. Ed. 117). **String Workshop II.** (2:0:4) A. Prerequisite: Music 372 or the equivalent. Sardoni
Designed to help music education majors learn to play and to teach viola, 'cello, and string bass. Survey of materials.

374 (New). **Choral Practicum.** (2:0:2) A. Prerequisite: Music 365 or equivalent and Music 366. Weight
Designed for music education majors. Experience in choral conducting and singing of typical school materials. Observation and application of rehearsal techniques.

375 (New). **Orchestra Practicum.** (2.0:2) A. Prerequisite: Music 372, 373 or the equivalent. Sardoni
Designed for music education majors. Experience in orchestra conducting and playing of typical school materials on minor instruments. Observation and application of rehearsal techniques.

376 (New). **Brand Practicum.** (2:0:2) Prerequisite: Music 370, 371, 372, 373 or equivalent. R. Laycock, Martino
Designed for music education majors. Experience in band conducting and playing of typical school materials on minor instruments. Observation and application of rehearsal techniques.

383 (Musicol. 162). **History of Sacred Music.** (2:2:0) S. (G-HA; G-R)
Cannon, Wakefield

390, 391 (Mu. Th. 181, 182). **Harmony at the Keyboard.** (2:2:2 ea.) A.W. Prerequisite: Music 192 and moderately advanced keyboard technique. Keeler
Harmonization of figured and unfigured basses and other voices; cadences, sequences, transpositions, modulations, and improvisations at the keyboard.

410, 411, 412 (Mu. Appl. 104, 105, 106). **University Chorale.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. R. Woodward

416, 417, 418 (Mus. Appl. 110, 111, 112). **Male Chorus.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

419, 420, 421 (Mu. Appl. 116, 117, 118). **Women's Chorus.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Gulbrandsen

422, 423, 424 (Mu. Appl. 122, 123, 124). **Madrigal Singers.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Halliday

425, 426, 427 (Mu. Appl. 128, 129, 130). **A Cappella Choir.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Weight

428, 429, 430 (Mu. Appl. 134, 135, 136). **Opera Workshop.** (1:0:5 ea.) A.W.S. (G-HA) Participation in Choral Union required. Admission by consent of director. Earl, Curtis, Staff

431 (New). **Choral Union.** (0:0:2) A.W.S. Woodward

For description see Music 131.

435, 436, 437 (Mu. Appl. 146, 147, 148). **Varsity and Marching Band.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Ballou

438, 439, 440 (Mu. Appl. 152, 153, 154). **Concert Band.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. R. Laycock

441, 442, 443 (Mu. Appl. 158, 159, 160). **Chamber Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. H. Laycock

444, 445, 446 (New). **Theatre Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Earl

447, 448, 449 (Mu. Appl. 170, 171, 172). **Symphony Orchestra.** (1:0:5 ea.) A.W.S. (G-HA) Admission by consent of director. Sardoni

450, 451, 452 (Mu. Appl. 176, 177, 178). **Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3 ea.) A.W.S.

(See Music 150 for staff.)

460-, 461-, 462-p (Mu. Appl. 182-, 183-, 184-p). **Private Instruction.** (2.1:0 ea.) A.W.S. (G-HA) Ten half-hour lessons per quarter. Special fee.

(See Music 160-p for staff.)

463, 464, 465 (Mu. Appl. 185, 186, 187). **Piano Accompanying.** (1:0:3 ea.) A.W.S. Staff

466 (Mu. Appl. 194). **The Art of Piano Accompaniment.** (1:2:0) A. Fuerstner

467, 468 (Mu. Appl. 195, 196). **Organ Problems.** (3:3:0 ea.) A.W. Prerequisite: advanced standing as an organ student. Admission by consent of instructor. Keeler

Registration, problems incidental to accompaniment playing, other related problems.

484, 485 (Musicol. 184, 185). **History of Secular Music.** (3:3:0 ea.) A.W. (G-HA) Prerequisite: Music 192. Cannon, Wakefield

Advanced Undergraduate or Graduate Courses

560-, 561-, 561-p (Mu. Appl. 279-, 280-, 281-p). **Private Instruction.** (2:1:0 ea.) A.W.S. Ten half-hour lessons per quarter. Special fee.

(See Music 160-p for staff.)

563, 564 (Mu. Appl. 191, 192). **Piano Repertoire.** (1:2:0 ea.) W.S. Fuerstner

565 (Mu. Ed. 127). **Piano Pedagogy.** (3:3:0) W. Keeler

Methods, materials, and problems in teaching piano.

566, 567 **(Mu. Appl. 188, 189). Vocal Repertoire.** (1:2:0 ea.) W.S. Weinzinger

568 (Mu. Ed. 218). Vocal Pedagogy. (3:3:0) W. Weight

Methods, materials, and problems in teaching voice.

595, 596, 597 (Mu. Th. 271, 272, 273). Composition. (3:3:0 ea.) A.W.S. Prerequisite: Music 291. Fuerstner

MUSIC EDUCATION

377 (Mu. Ed. 120). Basic Classroom Procedures. (4:4:3) S. Prerequisite: Educational Research and Services 305. Martino

For course description and fees see Education: Instruction 377.

478 (Mu. Ed. 138). Unit Planning and Teaching. (4:3:5) A. Prerequisite: Music 377. Martino

For course description and fees see Education: Instruction 478.

479 (Mu. Ed. 139). Secondary Student Teaching. (7:1:20) W.S. Prerequisites: Music 478 and completion of two-thirds of courses required for teaching major and minor or composite major. Martino

For course description and fees see Education: Instruction 479.

Graduate Courses

601 (Mu. Ed. 201). Music in the Elementary School. (3:3:0) A. Groesbeck

602 (Mu. Ed. 222). Music Education Supervision. (3:3:0) W. Groesbeck, Staff

605 (Mu. Ed. New). Influence of Music on Behavior. (3:3:0) A. Martino

Required of all graduate students majoring in music education.

606 (Mu. Ed. New). Functional Music. (3:3:0) W. Martino

Required of all graduate students majoring in music education.

610 (Mu. Ed. 241). Music Arranging for Small Groups. (3:3:0) S. R. Laycock

May be counted either as music education or music theory.

612 (Mu. Ed. New). Music Education in Society. (3:3:0) S. Martino

Required of all graduate students majoring in music education.

613 (Mu. Ed. New). Music Education Management. (3:3:0) A. Martino

615 (Mu. Ed. New). Vocal Methods, Materials, and Resources. (3:3:0) S. Woodward

616 (Mu. Ed. New). Instrumental Methods, Materials, and Resources. (3:3:0) W. H. Laycock

620 (Mu. Ed. 271). Advanced Conducting. (3:3:2) W. R. Laycock

May be counted either as music education or applied music.

625 (Mu. Ed. 281). Summer Music Clinic. (3-4-4 for two weeks during clinic). Su. Sardoni, Staff

May be counted either as music education or applied music.

635 (Musicol. 201). Introduction to Research Techniques. (2:2:0) A. Earl

637 (Musicol. 211). History and Literature of Music Through the Renaissance. (5:5:0) A. Cannon

638 (Musicol. 212). History and Literature of Music in the Baroque and Classical Periods. (5:5:0) W. Cannon, Wakefield

639 (Musicol. 213). **History and Literature of Music in the Romantic and Modern Periods.** (5:5:0) S. Wakefield

Music 637, 638 and 639 constitute a core-course in musicology and are required of any graduate student who intends to receive a master's degree with a major or minor in musicology.

641 (Musicol. 221). **The Symphony.** (2:2:0) A. Wakefield

642 (Musicol. 222). **Chamber Music.** (2:2:0) W. Wakefield

643 (Musicol. 223). **The Opera.** (2:2:0) S. Earl

644 (Musicol. 224). **Choral Music.** (2:2:0) W. Cannon

660-, 661-, 662-p (Mu. Appl. 282-, 283-, 284-p). **Private Instruction.** (2:1:0 ea.) A.W.S. Ten lessons per quarter. Special fee.

Brass: trumpet, cornet, French horn, trombone, baritone, tuba. Ballou, R. Laycock, Martino
Harpsichord: Wakefield
Organ: Keeler
Percussion: R. Laycock, Martino
Piano: Brownlee, Cannon, de Jong, Fuerstner, Gates, Keeler, Wakefield
Recorder: Cannon, Wakefield
Strings: violin, viola, 'cello, string bass H. Laycock, Nordgren, Sardoni
Voice: Curtis, Earl, Gulbrandsen, Halliday, Weight, R. Woodward
Woodwinds: flute, oboe, clarinet, saxophone, bassoon Edlefsen, R. Laycock

663 (Mu. Appl. 285). **Solo Recital.** (3:6-10:0) A. W. S. Staff
Required of all students minoring in applied music.

670, 671, 672 (Mu. Th. 211, 212, 213). **Counterpoint.** (3:3:0 ea.) A.W.S. Prerequisite: Music 291. Gates

675 (Mu. Th. 221). **Materials of Modern Music.** (3:3:0) A. Gates

676, 677 (Mu. Th. 222, 223). **Form and Analysis.** (3:3:0 ea.) W.S. Prerequisite: Music 291. Gates

680, 681, 682 (Mu. Th. 231, 232, 233). **Instrumentation and Orchestration** (3:3:0 ea.) A.W.S. Prerequisite: Music 291. Gates, Sardoni

685 (Mu. Th. 241). **History of Music Theory.** (3:3:0) A. Prerequisite: Music 291. Nordgren

686 (Mu. Th. 251). **Pedagogy of Music Theory.** (3:3:0) W. Prerequisite: Music 291. May be counted either as music theory or music education. Nordgren

687, 688, 689 (Mu. Th. 274, 275, 276). **Composition.** (3:3:0 ea.) A.W.S. Prerequisite: Music 291. Fuerstner, Gates

692 (Mu. Ed. 294). **Seminar in Music Education.** (2:2:0) W. Staff
Required of all graduate students majoring in music education.

693 (Musicol. 294). **Seminar in Musicology.** (2:2:0) S. Prerequisite: Music 635. Cannon

695 (Mu. Ed. 295). **Special Readings in Music Education.** (2:6:0) A.W.S. Martino

696 (Musicol. 297). **Special Reading in Musicology.** (2:6:0) A.W.S. Wakefield

698 (Mu. Th. 311). **Composition for Master's Degree.** (4:8:0) Staff

Candidates for the master's degree are required to show ability to compose before work is started on the composition.

699 (Mu. Ed. 300, Musicol. 300, & Mu. Th. 300). Thesis for Master's Degree. (4:8:0) Staff

Candidates for the master's degree are required to show competence in writing and research before work is started on the thesis.

This course also counts in Music:

Art 501. Aesthetics. (3:3:0)

Nursing

Associate Professors: Chapman (director, 2240 SFLC), Jenny.

Assistant Professors: Bloom, Cochran, Jahraus.

Instructors. Allred, Alward, D. Andersen, C. Anderson, Carpenter, Harris, Johnston, Kohler, McBride, Parsons, Potter, Weston, Wilson.

Requirements for a Major and Minor

The following program includes the requirements for a combined major and minor in nursing.

Freshman Year

	A	W	S
English 111, 112, 113	3	3	3
Religion	2	2	2
Physical education	1	1	1
Chemistry 101, 102, 103	5	4	3
Psychology 111	5		
Sociology 111		5	
Zoology 109			5
Food and Nutrition 115			3
Total Hours	16	15	17

Sophomore Year

	A	W	S	Su
History 170		5		
Physics 102		3		
Religion			2	2
H.D.F.R. 210	3			
H.D.F.R. 211	1			
Bacteriology 121	4			
Zoology 261	4			
Nurs. 201, 202, 203, 320	3	3	6	2
211, 212, 213, 304	2	4	5	6
218, 220, 314		2	3	5
Total Hours	17	17	16	15

Junior Year

	A	W	S	Su
Humanities	3	3	3	
Religion		2	2	2
Sociology 400	3			
Nurs. 348, 380, 421, 352	4	2	6	4
340, 351, 431, 362	4	4	5	5
361, 429		5	4	
Total Hours	14	16	20	11

Senior Year

	A	W	S
Humanities			6
Religion	2	2	2
Nursing 405, 477, 470	6	4	2
415, 475, 480	5	3	2
485, 488		5	5
Total Hours	13	14	17

I. For Non-Nursing Majors

Lower Division Course

288 (7). **Family Health and Home Nursing.** (2:1.3) A.W.S. Staff
Essential knowledge and attitudes about healthful family living. Skills in giving home nursing care to the sick or injured. Essentials of maternal health and child care.

II. For Majors in Nursing

Lower Division Courses

201 (5). **Fundamentals of Nursing.** (3:3:0) A. Johnston
Introduction to fundamental needs of an individual in health and illness, community resources to meet these needs, and the nurses' role in relation to these needs. Theory and principles relating to basic nursing skills and techniques in patient care.

202 (9). **Fundamentals.** (3:3:0) W. Prerequisite: Nursing 201. Johnston
Continuation of theory of basic nursing skills and techniques involved in comprehensive nursing care.

203 (101). **Introduction to Medical-Surgical Nursing.** (6:6:0) S. Prerequisites: Nursing 202, 218. Staff

Study of medical-surgical nursing from the standpoint of symptoms which cause the individual to seek medical-surgical care. Includes beginning study of disease conditions, diet therapy and pharmacology.

211 (6). Fundamentals Laboratory. (2:0:8) A. Concurrent registration in Nursing 201. Johnston, Staff

Introductory clinical course to enable the student to develop competency in fundamental nursing skills and techniques.

212 (10). Fundamentals Laboratory. (4:0:12) W. Concurrent registration in Nursing 202. Johnston, Staff

Continuation of clinical course in more complex fundamental nursing skills and techniques.

213 (102). Introduction to Medical-Surgical Nursing Laboratory. (5:0:25) S. Concurrent registration in Nursing 203. Staff

Experience in nursing care of patients with symptoms and disease conditions studied in Nursing 203; emphasis on the responses of the patient, his family, and the nurse. Continued application of basic nursing skills and understandings essential in meeting physical, emotional, and social needs of the patient.

218 (15). Pharmacy and Pharmacology. (2:1:2) W. Credit or concurrent registration in Nursing 212. Staff

Drugs, actions, dosages, administration, and mathematics.

220 (103). Practical Aspects of Medical-Surgical Nursing. (3:3:0) S. Staff

Introduction to the types and scope of health problems, social aspects of illness, accident prevention, and basic knowledges of medical science.

Upper Division Courses

304 (111). Intermediate Medical-Surgical Nursing. (7:7:0) A. Prerequisites: Nursing 203, 220. Carpenter

Continuation of medical-surgical nursing, organized around problems of patients with impairment or loss of essential body functions: digestive, excretory, reproductive, respiratory, and circulatory.

314 (112). Intermediate Medical-Surgical Nursing Laboratory. (5:0:15) Andersen, Carpenter, Weston

Experience in nursing care related to and correlated with Nursing 304.

320 (105). Eye, Ear, Nose and Throat Nursing. (2:2:0) Not given this year. Staff

Study of eye, ear, nose and throat conditions and development of skills essential to the care of patients with these conditions.

Upper Division Courses

340 (114). Orthopedic Nursing. (4:2:20) Not given this year. Five-week block. Staff

Nursing care of patients requiring correction of deformities of diseases and defects of the musculo-skeletal system. Includes application of learned principles to care of children with orthopedic defects.

348 (120). Operating Room Nursing. (4:2:20) A.W. Five-week block. Prerequisites. Nursing 203 and 213. Andersen

Comprehensive nursing care of the patient in the operating room with emphasis on techniques, understanding and application of principles of asepsis and teamwork.

351 (19). Maternal and Child Care. (4:4:0) Not given this year. Prerequisites: Nursing 203, 240. Staff

Social and health aspects of and nursing responsibilities in pregnancy, labor, delivery, and the puerperium; care of the infant.

352 (23). **Nursing Care of Children.** (4:4:0) Not given this year. Prerequisites: Nursing 203, 340. Staff

361 (20). **Maternal and Child Care Laboratory.** (5:0:25) Not given this year. Concurrent registration in Nursing 351. Staff

Experience in care and management of the obstetric patient in the physician's office, out-patient clinic, and hospital maternity divisions, including labor and delivery suite, post partum floors and new-born nurseries.

362 (24). **Nursing Care of Children Laboratory.** (5:0:25) Not given this year. Concurrent registration in Nursing 352. Staff

380 (25). **Trends in Nursing.** (2:2:0) A. Cochran

Study of relationships, origin, and development of nursing to present patterns of nursing.

405 (121). **Advanced Medical-Surgical Nursing.** (4:4:0) A.W. Prerequisite: Nursing 302. Carpenter

Continuation of medical-surgical nursing, with emphasis on advanced understanding and skills in meeting complex nursing problems.

409 (149). **Senior Seminar in Advanced Clinical Nursing.** (3:3:0) W.S. Cochran, Staff

Problem solving applied to selected cases requiring skilled nursing techniques and integration of all aspects of total nursing.

415 (122). **Advanced Medical Surgical Nursing Laboratory.** (4:0:24) A.W. Five-week block. Carpenter, Anderson, Weston

Experience in nursing care related to and correlated with Nursing 405.

419 (150). **Advanced Nursing Laboratory.** (5:0:15) W.S. Concurrent registration in Nursing 409. Cochran, Staff

Nursing care of complicated neurological and cardiac conditions, blood dyscrasias, skin and allergy, and emergency situations. Experience related to and correlated with Nursing 409 and 470.

421 (151). **Psychiatric Nursing and Mental Health.** (5:5:0) W.S. Jahraus, Bloom

Basic concepts in prevention, diagnosis, and treatment of mental illness, and implications for nursing. Development of appreciation of the functions of the psychiatric team.

429 (127). **Comprehensive Nursing of the Aging Population.** (3:1:6) W.S. Bloom, Jahraus

Study of the normal behavior of the aged; physical, emotional, and social needs and how they can be met; specific application to the ill person. Laboratory experience integrated with concurrent clinical experience.

431 (142). **Psychiatric and Mental Health Nursing Laboratory.** (6:0:18) W.S. Concurrent registration in Nursing 421. Bloom, Jahraus

Experience in nursing care of the acute and convalescent mentally ill. Observation of selected patients receiving intensive analytic and somatic therapy.

449 (145). **Communicable Diseases.** (3:2:6) W.S. Five-week block. Anderson

Study of acute and long-term communicable diseases, prevention and treatment with implications for nursing care. Laboratory practice of medical aseptic techniques, and observation and care of tuberculosis patients.

459 (123). **Advanced Maternal and Child Care.** (2:4:0) W.S. Five-week block. Prerequisites: Nursing 348, 405. Potter, Kohler

Nursing care of complications which may occur during the maternity cycle; care of the premature infant and children with acute and terminal diseases.

469 (124). Advanced Maternal and Child Care Laboratory. (3:0:9) W.S. Five-week block. Concurrent registration in Nursing 459. Potter, Kohler
Experience in nursing care related to and correlated with Nursing 459.

470 (143). Management. (2:2:0) W.S. Staff
Principles of administration and their application in the nursing situation. Activities of the nurse as a leader of the nursing team and responsibilities of the head nurse.

475 (125). Principles of Public Health Nursing. (3:3:0) A.W.S. Concurrent registration in Nursing 485. Allred, Jenny
Meaning and functions of public health nursing; application of principles of comprehensive nursing in the home or community setting.

477 (117). Public Health Sciences. (4:4:0) A.W.S. Concurrent registration in Nursing 485. Jenny, Staff
Meaning and scope of public health, public health organization and programs dealing with epidemiology, statistics, environmental control, maternal-child health, school health, chronic diseases, and geriatrics.

485 (136). Public Health Nursing Laboratory. (8:0:32) A.W.S. Concurrent registration in Nursing 475, 477. Allred, Jenny
Experience in a public health nursing agency in giving comprehensive nursing care to families and in working with allied professional workers and community agencies.

488 (127). Comprehensive Nursing. (5:0:25) Not given this year. Staff

490 (151). Senior Seminar. (2:2:0) S. Chapman
Opportunities and responsibilities inherent in the profession of nursing; emphasis on organizations, legislative controls, and fields of nursing. Survey of problems confronting the graduate professional nurse.

Nutrition

(See courses in Food and Nutrition.)

Personnel and Guidance

(See courses in Educational Research and Services.)

Philosophy

(See Division of Religion.)

Photography

(See Physics 177; Art 447, 448; Education: Instruction 307; Journalism 315, 316, 317, 318.)

Physical Education

Professors: C. J. Hart (chairman, men, 222 SFH), Holbrook (chairman, women, 320 WG), Hartvigsen, I. Heaton, E. R. Kimball.

Associate Professors: Kopp, Watts.

Assistant Professors: Barney, F. W. Dixon, Geddes, Robison, Soffe, A. Heaton.

Instructors: Andrus, Bangerter, Bunker, Calderwood, Cowan, Crowton, Davis, O. Dixon, Glover, W. J. Hafen, M. B. Jensen, C. R. Kimball, Leake, Stevens, Tolbert, Van Noy, Wallace, Witbeck, Wood.

Each student is required to complete successfully one lower division physical education service course during each quarter of his freshman year. Transfer students must have the equivalent or take the courses before graduation. Exceptions: (1) Students who are majoring in and who complete the course in engineering science together with requirements for an air science commission are not subject to the above requirement. (2) Freshman air science students need take only two of the usual three required quarters of physical education. Withdrawal from the air science program before the completion of six credit hours imposes the full physical education requirement.

A variety of activities is available for selection. A year's work in physical education activity will provide the student with an opportunity for organic development, neuromuscular skill, social contact in game and team situations, and other carry-over values.

Extra-curricular activities are promoted for student participation: games, sports, hikes, dancing, and intramural athletics. The department urges all students to participate regularly in some form of physical activity.

Students using the towel service are required to make a 75-cent deposit by purchasing a towel check. This check is exchangeable for towel service during school hours and is redeemable at any time.

A thorough physical examination is required of each freshman student upon entering the institution. Any student desiring exemption from physical education for medical reasons must obtain an excuse from the university physician. Written statements from the local doctor must be approved by the university physician.

Students registered for physical education activity courses are required to provide themselves with the official uniform, which may be purchased at the university book store. Tney also are required to provide themselves with an approved combination padlock for use on basket lockers.

SUBJECT MATTER CLASSIFICATION

Activity Service Courses

Preparatory-Remedial	1 - 99
Unclassified	101 - 109
Combatives	110 - 119
Individual Sports	120 - 139
Team Sports	140 - 159
Aquatics	160 - 169
Gymnastics	170 - 179
Rhythmics	180 - 199

Theory Courses

Type of Course	Lower Division	Upper Division	Advanced Undergrad. or Graduate	Graduate Courses
ADMINISTRATION	201-219	301-319 401-419	501-519	601-619 701-719
PHILOSOPHY AND PRINCIPLES	220-239	320-339 420-439	520-539	620-639 720-739
PHYSIOLOGICAL	240-259	340-359 440-459	540-559	640-659 740-759
EVALUATION	260-260	360-369 460-469	560-569	660-669 760-769
TEACHING METHODS	270-289	370-389 470-489	570-589	670-689 770-789
SEMINAR READINGS THESIS		390-399 490-499	590-599	690-700 790-800

Major Requirements

Physical Education — Men

Physical Education 180, 181, 182, 221, 222, 223, 224, 225, 226, 330, 341, 344, 371, 372, 373, 374, 413, 446, 464 and at least two hours from 206, 207, 314, 511, 542, 543.

Physical Education — Women

Physical Education 160, 180, 181, 182, 183, 187, 188, 189, 241, 242, 243, 244, 245, 246, 330, 341, 344, 413, 446, 464 and at least five hours from 207, 314, 375, 376.

Physical Education (With Dance Emphasis)

Physical Education 180, 181, 182, 183, 187, 188, 189, 241 or 244, 242, 246, 280, 281, 282, 283, 284, 285, 287, 288, 289, 300, 330, 341, 344, 384, 387, 388, 389, 484, 485, 487, 488, 489.

Dance Major (Non-teaching)

Physical Education 180, 181, 182, 183, 187, 188, 189, 282, 283, 284, 285, 287, 288, 289, 380, 381, 382, 384, 387, 388, 389, 484, 485, 487, 488, 489.

Minor Requirements

Physical Education — Men

Any four of the following six courses: Physical Education 221, 222, 223, 224, 225, 226. In addition, 180 or 181, 330, 341, 371, 372, 373 or 374, 413.

Physical Education — Women

Physical Education 180, 181, 182, 183, 187, 188, 189, 330, 341, 413 and any four from 241, 242, 243, 244, 245, 246.

Dance Minor

21 hours minimum, to include Physical Education 180, 181, 182, 183, 187, 188, 189, 282, 283, 284, 285, 287, 288, 289, 380, 484, 485.

The departments reserve the right to recommend a substitute for any of the above required courses.

Suggested Sequence of Courses — Men

Freshman Year

	A	W	S
English (composition)	3	3	3
Religion	2	2	2
Phys. Ed. 221, 222, 223	2	2	2
Bacteriology 121	4		
Zoology 105		5	
Chemistry 100*			3
Sociology 111 or minor	5		
History 170		5	
Health 130			1
Electives			5
Total Hours	16	17	16

Sophomore Year

	A	W	S
English (literature)			2
Religion	2	2	2
Phys. Ed. 224, 225, 226	2	2	2
Psychology 111	5		
Zoology 164		5	
Foods 115			3
Geology 101*	3		
Physics 101 or 177*		3-4	
Phys. Ed. 330, 180, 181	3	1	1
Health 121			2
Electives	2	3	4
Total Hours	17	16	16

Junior Year

	A	W	S
English (literature)	2	2	
Church Adm. 377, 387, 388	2	2	2
Phys. Ed. 371, 372, 373	2	2	2
Phys. Ed. 341, 344	3	3	
Phys. Ed. 377, 478		4	4
Phys. Ed. 374			2
Health 361			3
E.R.S. 305	6		
Humanities or minor	3	3	3
Total Hours	18	16	16

Senior Year

	A	W	S
Religion	2	2	2
Phys. Ed. 479, 464, 446	7	5	3
Phys. Ed. 413			3
Ed. Adm. 310, Ed. Inst. 550, Ed. V.P. 415	3	3	3
Humanities or minor	3	3	3
Electives		3	3
Total Hours	15	16	17

*Physical Science 101, 102, 103 will substitute for Chemistry 100, Physics 101, and Geology 101.

Suggested Sequence of Study — Women

Freshman Year

	A	W	S
Religion	2	2	2
English (composition)	3	3	3
Phys. Ed. 241, 242, 243	2	2	2
Phys. Ed 187, 188, 189	1	1	1
Chemistry (PS)	3		
Social science	5		
Health 130		1	
Physics		3	
Humanities		3	
Physical science			3
Electives			2
Total Hours	16	15	13

Sophomore Year

	A	W	S
Religion	2	2	2
Phys. Ed. 244, 245, 246	2	2	2
Phys. Ed. 181, 182, 183	1	1	1
Phys Ed. 180, 160		1	1
Zoology 105, 164	5	5	
Health Ed. 362			3
Psychology 111	5		
Humanities		3	
English (literature)			4
Minor		2	
Electives (P.E.)	1		2
Elective			2
Total Hours	16	16	17

Junior Year

	A	W	S
Religion	2	2	2
Phys. Ed. 330, 341, 344	3	3	3
E.R.S. 305	6		
Phys. Ed. 377, 478		4	4
History 170		5	
English (literature)			2
Humanities		3	
Minor	3		6
Electives (P.E.)	2		
Total Hours	16	17	17

Senior Year

	A	W	S
Religion	2	2	2
Phys. Ed. 479, 464	7		5
Phys. Ed. 413, 446	3	3	
Ed. V. and P. 415		3	
Ed. Adm. 310		3	
Ed. Inst. 550			3
Minor	5	5	3
Elective			3
Total Hours	17	16	16

Lower Division Courses

101 (1). Physical Education Activities — Men. (1:0:3) A. Bangerter
Includes games and a variety of athletic and gymnastic activities.

102 (2). Physical Education Activities — Men. (1:0:3) W. Bangerter

103 (3). Physical Education Activities — Men. (1:0:3) S. Bangerter

104 (48). Recreational Sports — Women. (1:0:3 or 5 as scheduled) A.W.S. Calderwood
Individual, dual, and small group games and sports. Selection made from activities providing opportunity for ready development of skill and recreational satisfaction.

110 (17). Boxing, Beginning — Men. (1:0:3) A.W.S. O. Dixon

111 (27). Boxing, Intermediate — Men. (1:0:3) A.W.S. Prerequisite: Physical Education 110 or equivalent. O. Dixon

113 (18). Wrestling, Beginning — Men. (1:0:3) A.W.S. Davis

114 (28). Wrestling, Intermediate — Men. (1:0:3) A.W.S. Prerequisite: Physical Education 113 or equivalent. Davis

121 (4). Track and Field, Indoor — Men. (1:0:3) W. Robison

123 (12). Badminton. (1:0:3) A.W.S. Soffe, Calderwood

125 (13). Handball — Men. (1:0:3) A.W.S. Hafen

126 (46). Archery. (1:0:3:) A.S. Staff
Individual techniques with various types of tournaments and related archery activities. Students furnish their own arrows and bow strings.

131 (30). Golf, Beginning. (1:0:4) A.S. F. W. Dixon
Two double periods each week at the Provo Municipal Golf Course. Fee.

132 (40). Golf, Intermediate. (1:0:4) A.S. Prerequisite: Physical Education 131 or equivalent. F. W. Dixon
Two double periods each week at the Provo Municipal Golf Course. Fee.

133 (31). Tennis, Beginning. (1:0:3) A.S. F. W. Dixon

134 (41). Tennis, Intermediate. (1:0:3) A.S. Prerequisite: Physical Education 133 or equivalent. F. W. Dixon

135 (32). Skiing, First year. (1:0:5) W. Cowan, Jensen, Leake
First year skiing for participants of varying abilities. Sections formed and instruction given in fundamentals of climbing, touring, downhill and slalom. Fee. (Permission to withdraw with refund restricted.)

136 (42). Skiing, Second year. (1:0:5) W. Cowan, Jensen, Leake
Second year skiing for participants of varying ability. Classification for instruction based upon ability. Fee. (Permission to withdraw with refund restricted.)

137 (44). Outdoor Experience Through Organized Hiking — Women. (1:0:5) A.S. Staff
Hikes taken in the canyons and mountains of the vicinity. Progression in difficulty is arranged. Related observations are made. Fee.

138 (R47). Outing Activities — Women. (1:0:3) A.S. Staff
Selected seasonal activities conducted which may include such activities as snowshoeing, hiking, horseback riding, canoeing, sleighing, ice skating, tracking and trailing, and nature observation. Fee. (Permission to withdraw with refund restricted.)

139 (45). Horseback Riding — Women. (1:0:4) A.S. Holbrook

Individual and group instruction in riding with development in techniques and with instruction in "aids." Correct handling of horses and the development of gait taught. Progress graded from beginning phases of horseback riding. Fee. (Permission to withdraw with refund restricted.)

140 (10). Basketball, Beginning. (1:0:3) A.W.S. Cowan, Crowton

141 (20). Basketball, Intermediate. (1:0:3) A.W. Prerequisite: Physical Education 140 or equivalent. Cowan, Crowton

144 (11). Volleyball, Beginning. (1:0:3) A.W.S. Soffe, Wallace

145 (New). Volleyball, Intermediate. (1:0:3) A.W.S. Prerequisite: Physical Education 144 or equivalent. Soffe, Wallace

149 (33). Field Sports — Women. (1:0:3) A. Staff

150 (35). Hockey — Women. (1:0:3) A. Staff

152 (36). Softball — Women. (1:0:3) A.S. Calderwood

153 (20). Basketball, Freshmen — Men. (1:0:5) W. Watts

Limited to those qualifying for freshman basketball squad.

154 (37). Football, Freshmen — Men. (1:0:5) A. Tolbert

Limited to those qualifying for freshman football squad.

155 (38). Track and Field, Freshmen — **Men.** (1:0:5) S. Robison

Limited to those qualifying for freshman track and field squad.

156 (39). Baseball, Freshmen — Men. (1:0:5) S. Van Noy

Limited to those qualifying for freshman baseball squad.

160 (60). Swimming, Beginning. (1:0:3) S. Cowan

Swimming techniques for the novice to provide a foundation for skill, safety, and enjoyment of water activities. Fee. (Permission to withdraw with refund restricted.)

161 (61). Swimming, Intermediate. (1:0:3) S. Wallace

Swimming skills including strokes, diving, and synchronizing. Fee. (Permission to withdraw with refund restricted.

164 (64). Life Saving. (1:0:3) S. Cowan

American Red Cross life saving course. Fee. (Permission to withdraw with refund restricted.)

165 (65). Water Safety Instruction. (1:0:3) S. Prerequisite: Physical Education 164 or equivalent. Cowan

American Red Cross water safety instructor's course. Fee. (Permission to withdraw with refund restricted.)

166 (66). Canoeing. (1:0:3) A.S. Prerequisite: ability to pass swimming test or the holding of an intermediate or life saving card. Cowan, Holbrook

Instruction in canoeing techniques on the many and varied waterways of Utah County. American Red Cross basic canoeing cards and canoeing instructor cards issued to qualifying students. Fee. (Permission to withdraw with refund restricted.)

170 (70). Tumbling, Beginning — Women. (1:0:3) A.W.S. Wallace

Simple tumbling events in keeping with beginner's ability taught as foundation work. Other items given to develop skill and coordination for the fun and satisfaction of the performers.

171 (70). Trampoline and Tumbling, Beginning — Men. (1:0:3) A.W.S. Andrus

173 (72). Trampoline and Gymnastics, Beginning — Men. (1:0:3) A.W.S. Andrus
Basic instruction in gymnastic and free exercises; techniques in use of parallel and horizontal bars, flying rings, side horse, and trampoline.

174 (73). Trampoline and Gymnastics, Intermediate — Men. (1:0:3) A.W.S.
Prerequisite: Physical Education 173 or equivalent. Andrus

175 (72). Gymnastics and Body Mechanics — Women. (1:0:3) A.W.S. Staff

176 (73). Games and Conditioning Activities — Women. (1:0:3) A.W.S. Staff

178 (76). Weight Training and Body Building. (1:0:3) A.W.S. Witbeck

180 (80). Social Dance. (1:0:3) A.W.S. A. Heaton

181 (88). Folk Dance. (1:0:3) A.W.S. Holbrook, Jensen

182 (89). Square Dance. (1:0:3) A.W.S. A. Heaton, Jensen
Square and round dances of the United States and dances of the Americas.

183 (87). Tap Dance. (1:0:3) A.W.S. Jensen
Fundamental and basic tap rhythms progressing into routines for varied tempo music.

187 (81a). Modern Dance Technique, Beginning. (1:0:3) A.W.S. Staff
Progressive fundamental movement techniques, with emphasis upon rhythm, space, locomotion, and contraction and relaxation.

188 (81b). Modern Dance Techniques, Intermediate. (1:0:3) A.W.S. Staff
Progressive fundamental movement techniques with emphasis upon qualities of movement and body action in initiating "leads".

189 (81c). Modern Dance Techniques, Advanced. (1:0:3) A.W.S. Staff
Progressive fundamental movement techniques with emphasis upon the approaches of sensory stimuli and structural analysis.

206 (106). Officiating Football — Men. (1:1:0) W. Watts
Rules, techniques, problems, and procedures in officiating football.

207 (107). Officiating Basketball. (1:1:0) W. Cowan, Watts
Rules, techniques, problems, and procedures in officiating basketball.

221 (51). Skills and Techniques for Majors — Men. (2:0:5) A.S. Bangerter
Speedball, touch football, soccer, and tumbling.

222 (52). Skills and Techniques for Majors — Men. (2:0:5) W. Bangerter
Boxing, bowling, wrestling. Special fee for bowling.

223 (53). Skills and Techniques for Majors — Men. (2:0:5) A.S. Bangerter
Football, gymnastics, weight training, and body building.

224 (54). Skills and Techniques for Majors — Men. (2:0:5) A.S. Soffe
Tennis, volleyball, golf. Special fee for golf.

225 (55). Skills and Techniques for Majors — Men. (2:0:5) W. Soffe
Badminton, basketball, handball, squash.

226 (56). Skills and Techniques for Majors — Men. (2:0:5) A.S. Soffe
Games and relays, softball, track and field.

241 (51). Skills and Teaching Techniques — Women. (2:0:4) A. Calderwood
Soccer, speedball, and body mechanics.

242 (52). Skills and Teaching Techniques — Women. (2:0:4) W. Jensen
Marching, gymnastics, volleyball, and tumbling.

243 (53). Skills and Teaching Techniques — Women. (2:0:4) S. Calderwood
Group games and relays, outdoor games, track and field, and softball.

244 (54). Skills and Teaching Techniques — Women. (2:0:4) A. Cowan
Hockey, badminton, practice and tests in activities calling for coordination, balance, flexibility, agility, and timing.

245 (55). Skills and Teaching techniques — Women. (2:0:4) W. Cowan
Basketball, rope jumping and recreational sports.

246 (56). Skills and Teaching Techniques — Women. (2:0:4) S. Cowan
Recreational sports, archery, golf.

250 (New). Methods for Ski Instruction. (1:0:3) A. Prerequisite: Physical Education 135 and 136 or equivalent. Cowan
Instructors course in skiing for men and women wishing to qualify as student instructors.

280 (R180). Techniques of Teaching Social Dance. (1:0:3) S. Prerequisite: Physical Education 180. Heaton

281 (New). Techniques of Calling Square Dance. (1:0:3) A. Jensen
Analysis of dance forms, their presentation for ready learning, and study and laboratory experience in square dance calling.

282 (180). Specialty Dance. (1:0:3) A.W.S. Prerequisite: Physical Education 187, 188, 189 or equivalent. Glover

283 (185a). Percussion Accompaniment, Beginning. (1:0:3) A. Glover
Percussion accompaniment based upon rhythm, form and analysis.

284 (185b). Percussion Accompaniment, Intermediate. (1:0:3) W. Glover
Percussion accompaniment supportive of dance technique.

285 (185c). Percussion Accompaniment, Advanced. (1:0:3) S. Glover
Percussion accompaniment in choreography for interpretation and expression.

287 (83a). Dance Composition, Beginning. (1:0:3) A. Prerequisite: Physical Education 187, 188, 189 or equivalent. Glover
Compositional considerations with emphasis given to fundamental locomotor movement.

288 (83b). Dance Composition, Intermediate. (1:0:3) W. Glover
Compositional considerations with emphasis given to space usage, interpretations, and relationships.

289 (83c). Dance Composition, Advanced. (1:0:3) S. Glover
Compositional considerations with emphasis given to the quality and the expression in movement.

Upper Division Courses

314 (134). Administration of Intramural Sports. (2:2:0) W. Hafen
Procedures concerning organization, administration, and supervision of the intramural program.

330 (130). Principles of Physical Education. (3:3:0) A.S. Hart, Holbrook
Philosophy and principles underlying physical education for a general comprehension and unified view.

341 (141). General Kinesiology. (3:3:0) A.W. Prerequisite: Zoology 164. Barney, F. Dixon
Anatomy of the human body with emphasis upon study of bones, joints, muscles, and their action. Athletic exercise and its effect upon the body.

344 (140). Physiology of Activity. (3:3:0) A. S. Prerequisite: Zoology 164. Barney
Processes which occur in the body during exercise. Special attention given to the effects of exercise upon circulation, respiration, and metabolism.

371 (101). Coaching Methods — Football. (2:2:0) A. Kopp
Fundamentals of the game, methods of working out plays, systems of offense and defense, conditioning of teams, etc.

372 (102). Coaching Methods — Basketball. (2:2:0) W. Watts
Fundamentals of offensive and defensive systems, schedule making, etc.

373 (103). Coaching Methods — Track and Field. (2:2:0) S. Robison
Techniques of track and field athletics with emphasis upon management of meets.

374 (104). Coaching Methods — Baseball. (2:2:0) S. Van Noy
Problems and duties of the baseball coach, including individual techniques and team tactics, rules and training.

375 (120). Physical Education for Teachers of Primary Grades. (2:1:3) A.W.S. Staff

Analysis of fundamentals and development of skills teaching in game and rhythm activities for grades 1, 2, and 3.

376 (121). Physical Education for Teachers of Intermediate Grades. (2:1:3) A.W.S. Cowan

Analysis of fundamentals and development of skills for teaching in game and rhythm activity for grades 4, 5, 6.

380 (189). Dance Production. (2:2:2) A. Glover

Research in problems for dance concerts. Suggestions for costumes, choreography, and accompaniment.

381 (186a). Piano Improvisation for Dance, Beginning. (1:0:3) A. Prerequisite: Fundamental skill at the keyboard or Physical Education 381, 382, 383. Glover

382 (186b). Piano Improvisation for Dance, Intermediate. (1:0:3) W. Glover

384 (183a). Problems in Teaching Dance. (1:0:3) A. Staff

385 (183b). Problems in Teaching Dance. (1:0:3) W. Staff

386 (183c). Problems in Teaching Dance. (1:0:3) S. Staff

387 (181a). Modern Dance, Advanced Technique. (1:0:3) A. Staff

388 (181b). Modern Dance, Advanced Technique. (1:0:3) W. Staff

389 (181c). Modern Dance. (1:0:3) S. Staff

413 (133). Administration of Physical Education. (3:3:0) A.S. Hartvigsen

Executive and administrative problems arising out of organizing and conducting health, physical education and recreation programs in schools and communities.

446 (146). Adaptation of Activities in Corrective Procedure. (3:2:3) W.S. Prerequisites: Zoology 164; Physical Education 341. Barney

Variations of posture, mechanics of balancing of forces in the body, psychology of individual gymnastics, methods of stimulating interest in posture, and selection and scope of corrective activities.

464 (154). Introduction to Tests in Physical Education. (5:5:0) W.S. Hart

Background course in physical achievement tests. History of the development, together with analysis of outstanding tests in physical education and statistical procedures used in analyzing tests.

484 (187). Philosophy and Principles of Dance. (2:3:1) A. Staff

485 (188). History of Dance. (3:3:1) S. Staff

487 (184a). **Concert Dance.** (1:0:3) A. Glover
Performance techniques and composition for modern dance.

488 (184b). **Concert Dance.** (1:0:3) W. Glover

489 (184c). **Concert Dance.** (1:0:3) S. Glover

Advanced Undergraduate or Graduate Courses

511 (311). **Administration of High School Athletics.** (3:3:0) A. E. R. Kimball
Educational outcomes of high school athletics—their relationship to the intramural program, the physical education program, and the school and the community as a whole.

542 (142). **Physical Inspection.** (2:2:0) S. Staff
Ways of recognizing abnormalities of body function by inspection and testing procedures.

543 (143). **Problems in Athletic Conditioning and Injuries.** (3:2:3) W. Barney
Fee.

EDUCATION COURSES

377 (137). **Basic Classroom Procedures.** (4:4:3) A.W.S. Cowan
For course description and fees see Education Instruction 377.

478 (138). **Unit Planning and Teaching.** (4:3:5) A.W.S. Holbrook
For course description and fees see Education: Instruction 478.

479 (139). **Secondary Student Teaching.** (7:1:20) A.W.S. Bangerter, Cowan, Holbrook, Soffe
For course description and fees see Education: Instruction 479.

Graduate Courses

601 (New). **Supervision in Physical Education.** (3:3:0) A. Staff
Techniques of supervision with regard to their application in improving teacher-pupil learning situation in physical education. Problems met by supervisors in elementary and secondary schools with class participation in solving them.

602 (230). **Seminar in Administration.** (3:3:0) W. Hartvigsen

603 (132). **Planning and Administration of Facilities.** (3:3:0) W. E. R. Kimball
Basic problems in planning indoor and outdoor facilities for school and community physical education, health, recreation, and athletics.

604 (New). **Intramural Organization and Management.** (3:3:0) S. Staff
History, present status, and objectives of the intramural movement; guiding principles related to patterns of organization, units of competition, scheduling, program of activities, record keeping, awards, facilities, financing, securing officials, and special administrative problems.

605 (New). **Personal and Public Relations in Physical Education, Health and Recreation.** (3:3:0) W. Hartvigsen
Personal and public relations as they relate to physical education, health and recreation. Tools and techniques for determining public reaction and methods of securing good personal and public relations.

620 (235). **Basic Relationships.** (3:3:0) S. Staff
Integration of College offerings in recreation, education, physical and health education, youth leadership, scouting, dance and athletics.

621 (New). **History and Philosophy.** (5:5:0) W. Holbrook
Beliefs and practices from early and modern times. Significance and implications of these events in view of their effect upon modern educational and cultural uses.

641 (247). Principles and Practices of Physical Reconditioning. (3:3:0) A. Prerequisite: Zoology 164. Barney

660 (255). Tests and Measurements in Physical and Health Education. (3:3:0) W. Prerequisites: Physical Education 464 or equivalent. Hart

670 (New). Teaching Progression in Individual Sports. (2:2:0) A. Soffe, Cowan

Materials, methods and teaching progression in individual sports such as archery, badminton, bowling, golf and tennis.

671 (New). Teaching Progression in Team Sports — Men. (2:2:0) S. Soffe

Materials, methods, and teaching progression in team sports such as basketball, football, soccer, softball, speedball, and volleyball.

672 (New). Teaching Progression in Team Sports — Women. (2:2:0) S. Cowan

Materials, methods and teaching progression in team sports such as basketball, field hockey, soccer, softball, speedball, and volleyball.

673 (New). Physical Education in the Elementary School. (3:3:0) W. Holbrook

For the teacher, the principal, and the supervisor. Emphasis upon objectives, interrelationships with the curriculum, and content and material used in accomplishing educational results.

674 (New). Material and Methods for Secondary Teachers — Men. (3:3:0) A. Bangerter

Designed to give the experienced teacher materials and techniques of teaching various physical education activities. The student develops a syllabus outlining progressive steps in teaching core material in such activities as trampoline, tumbling, gymnastics, apparatus and certain selected sports.

675 (New). Materials and Methods for Secondary Teachers — Women. (3:2:2) Not given this year. Cowan

Core physical education material in marching, gymnastics and tumbling, trampoline, and related activities leading toward the physical education demonstration.

676 (236). Curriculum Construction. (5:5:0) S. Hart

684 (New). Teaching Progressions in Modern Dance, Advanced. (2:1:2) W. Staff

Overview on integration of techniques, compositional principles, and ideas employed in developing modern dance in the secondary school curriculum.

692 (292). Research Methods in Physical Education. (5:5:0) A. Hart

694 (294). Seminar in Readings. (2:2:0) A.W.S. Staff

696 (New). Seminar in Problems. (2:2:0) S. Staff

699 (300). Thesis, Master. (2-6:2-5:0) Staff

700 (301). Field Project, Master. (2-6:2-6:0) Staff

Physical Science

Lower Division Courses

101, 102, 103 (1, 2, 3). Concepts of Physical Science. (3:3:0 ea.) (G-PS) Compton

This course starts Autumn Quarter and continues through the year. All three courses must be taken to receive credit which will meet the requirements for general education in the physical sciences. Emphasis is devoted to a penetrating application of the methods of science to a relatively few basic topics rather than to a superficial survey of many.

PHYSICAL SCIENCE EDUCATION

Upper Division Courses

377 (New). **Basic Classroom Procedures.** (4:4:3) W.S. Prerequisite: E.R.S. 305. Compton

For course description and fees see Education: Instruction 377.

478 (New). **Curriculum and Methods.** (4:3:5) A.S. Prerequisite: Physical Science Education 377. Compton

For course description and fees see Education: Instruction 478.

479 (New). **Secondary Student Teaching.** (7:1:20) A.W.S. Prerequisite: Physical Science Education 478. Compton

For course description and fees see Education: Instruction 479.

These courses also count in Physical Science:

Education: Instruction 670. Teaching Mathematics and Science in Secondary Schools. (3:3:0)

Education: Instruction 493, 494. Independent Reading. (1-3:1-3:0)

Physics

Professors: W. Hales (chairman, 280 ESC), E. J. Eastmond, H. Fletcher, Marshall.

Associate Professors: Gardner, R. Hales.

Assistant Professors: Compton, Hoyt, McNamara, Miller.

Instructor: Dudley.

Students who expect to study engineering or physical sciences should begin their study of physics by electing Physics 211, 212, 213. Students who expect to study medicine or major in the fields of biological science should begin their study of physics by electing Physics 111, 112, 113.

Non-science students may elect with profit Physics 101, 102, 103, 104, 127, 128, 137, 177, which may be taken without prerequisite and which are organized with the view of giving the student an appreciation of his physical environment.

Physics is one of the subjects comprising the composite major in mathematics and the physical sciences designed for prospective teachers.

Requirements for Physics Major

For entrance requirements of the College of Physical and Enginering Sciences see page 128 of this catalog. Students majoring in physics have the following courses prescribed: Physics 211, 212, 213, 321, 322, 323, 491, 492, 493 and fifteen or more hours of additional courses selected from the 300, 400 or 500 series in the department.

Suggested Courses for Physics Major

In order to satisfy the general education requirements and at the same time obtain sufficient work in undergraduate physics to make the pursuit of graduate work profitable, the physics major must plan his program carefully.

For the physics majors the following program is recommended for the first two years:

Freshman Year

	A	W	S
Math. 231, 232, 233*	5	5	5
Chemistry 111, 112, 113	5	5	5
English 111, 112, 113	3	3	3
Religion	4		2
Phys. ed.	1	1	1
Health 130			1
Electives		5	
Total Hours	18	19	17

Sophomore Year

	A	W	S
Math. 234, 335. 339*	5	3	3
Physics 211, 212, 213	5	5	5
Religion	2	2	2
Language or electives	5	7	7
Total Hours	17	17	17

*For the mathematics courses suggested above, the student might substitute the series Mathematics 111, 112, 231 first year; 232, 233, 234 second year; and Mathematics 335, 339 third year.

During the junior and senior years courses should include all or most of those listed in the following sample program. Students pursuing specialized or terminal courses in physics can substitute for the starred courses those more suitable to their particular program.

Junior Year

	A	W	S
Physics 321, 322, 323	4	4	4
Physics 331, 332, 333*	3	3	3
Physics 371, 372, 373*	2	2	2
Religion	2	2	2
Electives	7	7	7
Total Hours	18	18	18

Senior Year

	A	W	S
Math. 541, 542, 543*	3	3	3
Physics 341, 342, 343	5	5	5
Physics 351, 352, 353*	3	3	3
Religion	2	2	2
Physics 491, 492, 493	1	1	1
Electives	4	4	4
Total Hours	18	18	18

Lower Division Courses

Only one of the courses 101, 102, 103, 104 may be taken for credit.

101 (1). **Essentials of Physics.** (3:3:0) A.W.S. (G-PS) Staff
Introductory description of common experiences with physical phenomena, with emphasis on energy in its various forms and manifestations.

102 (2a). **Fundamentals of Physics.** (3:3:0) A. (G-PS) Dudley
Introductory treatment of basic concepts of physical phenomena, with applications in nursing techniques.

103 (2b). **Fundamentals of Physics.** (3:3:0) W. (G-PS) Dudley
Introductory treatment of basic concepts of physical phenomena, with application in music, speech and hearing, color and image production.

104 (2c). **Fundamentals of Physics.** (3:3:0) S. (G-PS) Dudley
Introductory treatment of basic concepts of physical phenomena, with household applications.

111 (31). **General Physics, Mechanics and Sound.** (5:5:4) A. (G-PS) Prerequisites: Mathematics 111, 112 or equivalent. Staff
A general course to satisfy the physics requirement of pre-medical and pre-dental students and students in the biological sciences.

112 (32). **Heat and Light.** (5:5:4) W. (G-PS) Staff
Continuation of Physics 111.

113 (33). **Electricity.** (5:5:4) S. Staff
Continuation of Physics 112.

127 (New). **Descriptive Astronomy "The Solar System."** (3:3:1) A.W.S. (G-PS). McNamara
A non-mathematical presentation of our knowledge of the solar system. Frequent use is made of the observatory and the planetarium.

128 (New). **Descriptive Astronomy "The Stellar System."** (3:3:1) A.W.S. (G-PS). McNamara
A non-mathematical presentation of our knowledge of the content and history of the universe. Physics 127 is not a prerequisite.

137 (21). **Weather and Climate.** (4:3:2) W. (G-PS) W. Hales
Study of the earth's atmosphere and problems associated with climate and weather forecasting.

177 (26). **Physics of Light and Photography.** (4:3:3) A.S. (G-PS) W. Hales
Study of fundamentals of light phenomena with applications to photography.

211 (41). **General Physics, Mechanics and Sound.** (5:5:4) A. (†G-PS) Prerequisite: Calculus concurrently. Staff
A general course to satisfy requirements in physics for physical science and engineering majors. It is a prerequisite for all the specialized courses in physics.

212 (42). **Heat and Light.** (5:5:4) W. (†G-PS) Staff
Continuation of Physics 211.

213 (43). **Electricity.** (5:5:4) S. Staff
Continuation of Physics 212.

Upper Division Courses

Prerequisites for all upper division courses in physics are calculus and Physics 211, 212, 213.

301 (102). History of Physics. (3:3:0) Su. Staff

History of the beginning of physical science and applications to human welfare. Designed to meet the general education of the high school teacher and layman.

321, 322, 323 (121, 122, 123). Mechanics. (4:4:0 ea.) R. Hales

Fundamental principles of mechanics and their application to physical problems.

327, 328, 329 (New). Introduction to Astrophysics. (3:3:0 ea.) A.W.S. McNamara

Applications of principles of atomic spectroscopy to the study of astronomical courses. Physics of stellar atmospheres and interiors.

331 (111). Heat. (3:3:2) A. Miller

Study of temperature, heat transfer, and thermal properties of matter.

332 (112). Thermodynamics. (3:3:0) W. Miller

Study of laws of thermodynamics and their applications to numerous physical and chemical phenomena.

333 (113). Kinetic Theory. (3:3:0) S. Miller

Study of molecular motions and the transfer of mass, momentum, and energy in gases, liquids, and solids.

337 (131). Physical Meteorology. (3:3:2) A. Not given this year. W. Hales

Study of physical elements of the earth's atmosphere and their influence upon weather and climate.

338 (132). Dynamic Meteorology. (3:3:2) W. Not given this year. W. Hales

Continuation of Physics 337, with special emphasis on thermodynamics and hydrodynamics of the atmosphere.

339 (133). Synoptic Meteorology. (3:2:2) S. Not given this year. W. Hales

Continuation of Physics 338, with emphasis on weather analysis and weather forecasting by means of synoptic charts.

341, 342, 343, (141, 142, 143). Electricity and Magnetism. (5:5:4 ea.) A.W.S. Marshall

Electrostatics and D.C. and A.C. circuit theory; introduction to electronics.

351, 352, 353 (151, 152, 153). Atomic and Nuclear Physics. (3:3:2 ea.) **W. Hales**

Study of the structure of the atom as revealed by X-rays, radioactivity, spectroscopy, nuclear theory, and related subjects.

371, 372, 373 (157, 158, 159). Experimental Optics. (2:2:2 ea.) A.W.S. Eastmond

Fundamental principles of geometrical and physical optics with emphasis on experiments with prisms and lenses, dispersion and spectra, interference, diffraction, and polarization.

377, 378, 379 (187, 188, 189). Advanced Photography. (2:2:2 ea.) A.W.S. Prerequisites: Physics 177, 211, 212, 213, and general chemistry. W. Hales

394 (181). Laboratory Arts. (2:2:0) A. **Staff**

Process connected with construction and use of apparatus in the physical laboratory.

441, 442, 443 (145, 146, 147). Electronics for Physicists. (3:3:0 ea.) A.W.S. Not given this year. Prerequisite: Physics 341, 342, 343 or equivalent. Staff

491, 492, 493 (195, 196, 197). Seminar. (1:1:0 ea.) A.W.S. R. Hales
Survey of physical theories and topics in modern research. A course for seniors in which the student is aided in integrating the specialized courses.

494 (183). Advanced Physical Measurements. (1-3:0:2-6) A.W.S. Staff
Precision measurements involving special laboratory techniques and solution of some research problems. Required of all majors in physics in senior year.

495 (191). Readings in Modern Physics. (1-3:1-3:0) A.W.S. Staff
Reading course designed to acquaint the student with new material which may not have been included in the regular courses.

Advanced Undergraduate or Graduate Courses

511, 512, 513 (205, 206, 207). Introduction to Theoretical Physics. (3:3:0 ea.) A.W.S. Not given this year. Hoyt

551, 552, 553 (251, 252, 253). Quantum Mechanics. (3:3:0 ea.) A.W.S. Gardner

Graduate Courses

621 (211). Advanced Mechanics. (3:3:0) Not given this year. Staff

622 (212). Dynamics. (3:3:0) Not given this year. Staff

623 (213). Theory of Relativity. (3:3:0) Not given this year. Staff

631, 632, 633 (New). Thermodynamics, Statistical Mechanics, and Kinetic Theory. (2:2:0 ea.) A.W.S. Staff

641, 642, 643 (241, 242, 243). Mathematical Theory of Electricity and Magnetism. (3:3.0 ea.) Gardner

651, 652, 653 (201, 202, 203). Nuclear Physics. (3:3:0 ea.) Not given this year. Gardner

661, 662, 663 (261, 262, 263). Fundamentals of Acoustics. (3:3:0 ea.) A.W.S. Fletcher

664, 665, 666 (264, 265, 266). Acoustical Measurements. (2:0:2 ea.) A.W.S. Staff

671, 672, 673 (231, 232, 233). Atomic Physics and Spectroscopy. (3:3:2 ea.) A.W.S. Eastmond

681, 682, 683 (271, 272, 273). Modern Theory of the Solid State. (2:2:0 ea.) A.W.S. Not given this year. Hoyt

691, 692, 693 (295, 296, 297). Seminar. (1:1:0 ea.) A.W.S. Staff

695 (291). Readings in Modern Physics. (1-3:1-3:0) A.W.S. Staff

696, 697, 698 (292, 293, 294). Classical Experiments. (2:0:4 ea.) Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

771, 772, 773 (237, 238, 239). Molecular Physics and Microwave Spectroscopy. (3:3:0 ea.) Not given this year. Prerequisite: consent of instructor. Staff

These courses also count in Physics:

Electrical Engineering 581, 582, 583. Psycho-Acoustics. (5:5:0 ea.)
Electrical Engineering 584, 585, 586. Advanced Musical Acoustics. (2:2:0 ea.)
Electrical Engineering 587. Architectural Acoustics. (5:5:0)

Political Science

Professors: Grow (chairman, 358 McK), Jensen (emeritus), Poll, Pond.
Associate Professor: Caldwell.
Assistant Professors: Carr, Jones, Mabey, Reeder, Riggs.

Requirements for a Major in Political Science

Upper division and graduate courses in this department are arranged in six main areas of study:

I. Political Theory: 501-506, 590, 601-605
II. Politics: 510-522, 610
III. Public Administration: 530-545, 593, 630-635
IV. Comparative Government: 550-562, 650-651
V. International Law and Relations: 565-584, 665-675
VI. Public Law: 575-576, 590-597, 690-696

A major in political science requires the satisfactory completion of at least 45 hours of work in this field, distributed as follows:

Required courses: Political Science 110, 111, 112 or 115, 301, 490.
Elective courses: Twenty-five hours, including at least one course from each of the six main areas of upper division work, selected in consultation with the Political Science Department.

A comprehensive examination is given to all majors in the second quarter of the senior year.

It is recommended that the major in political science include History 120 and 121 in his basic program.

Political Science 110, 111, and 112 or 115 should be completed by the end of the sophomore year. Courses and sequences other than those required should be selected in consultation with the department chairman, who will advise the student also in the selection of his minor field.

Political science is designated as a "composite major" in social science. (See College of Education.)

American History and Government Requirement

In satisfying this requirement for graduation, the major student in political science is advised to offer one of the following combinations:

Political Science 110 and History 120.
Political Science 110 and History 121.
Political Science 110 and History 274.

History 170 and History 180 are not recommended for majors in political science as the means of fulfilling this graduation requirement.

Lower Division Courses

105 (5). Current Affairs. (2:2:0) A.W.S. (G-SS) Poll
Survey of current events with special attention to historical background and present implications in economics, sociology, politics, and international relations.

110 (10). American Government. (5:5:0) A.W.S. (G-SS) Staff
Origin and growth of federal constitution; constitutional rights of citizens; study of executive, legislative, and judicial departments.

111 (11). **State and Local Governments.** (5:5:0) A.S. (G-SS) Staff
Relation of states to the national government. functions and powers of states; the types of municipal government and their growth and operation.

112 (12). **Foreign Governments.** (5:5:0) A.W. (G-SS) Staff
General study of selected European, Asiatic, and Latin-American governments; their development, organization, administration, and politics.

115 (15). **Introduction to International Relations.** (5:5:0) W.S. (G-SS) Riggs
Survey of basic forces, practices, and institutions with special attention to foreign policies of major powers and problem areas in international politics.

Upper Division Courses

301 (101). **Bibliography and Research in Political Science.** (3:3:0) A.W. Caldwell
Sources, materials, and methods of research in political science; government documents; national, state, international organization. Required of all majors in political science.

490 (190). **Senior Seminar.** (2:0:2) Staff
Research seminar required of all majors in political science. This course should follow Political Science 301.

498 (198). **Directed Readings in Political Science.** (1 or 2:0:1 or 2) A.W.S. Staff

Advanced Undergraduate or Graduate Courses

501 (104). **The Development of Political Thought.** (5:5:0) A. Caldwell
History of political thought. Socrates, Plato, Aristotle, Epicureans, Cynics, Stoics, Cicero. Early and medieval Christian thinkers: Machiavelli, Hobbes, and others, to Locke.

503 (105). **Modern European Political Thought.** (5:5:0) W. Caldwell
Modern and contemporary political thought, including development and criticism of liberal, socialist, communist, fascist, and conservative doctrines.

506 (106). **American Political Thought.** (3:3:0) S. Jensen
American political ideas from the colonial period to the present, with an analysis of their influence upon development of American history and government.

510 (110). **Political Parties in the U.S.** (3:3:0) A. Grow
Organization and methods of action of political systems in the United States.

515 (115). **Public Opinion and Propaganda.** (3:3:0) W. Grow
Trends of public opinion and techniques which have been instrumental in shaping it.

520 (116). **American Legislative System.** (3:3:0) S. Grow
Structure and organization of congressional, state, city, legislative bodies, nature of business transacted; influences acting upon such bodies.

522 (120). **Contemporary Problems.** (3:3:0) A. Poll
Selected topics which involve the formulation of American public policy in the areas of economics, sociology, politics, and international relations.

530 (130). **Introduction to Public Administration.** (5:5:0) A.W. Grow
Relationship of administration to other branches of government; types of control over administration; central and local government.

532 (131). **Personnel Administration.** (3:3:0) A. Staff
Treatment of processes, procedures, controls, and problems of personnel administration in executive branches of federal, state and local governments.

535 (133). **Municipal Government and Administration.** (3:3:0) W. Grow
Growth, development, and organization of cities in the United States; relation of city and state governments; problems and activities of modern American cities.

540 (134). **Administration of American Foreign Policy.** (3:3:0) S. Grow
Organizations administering foreign policy. Emphasis on structure and function of the State Department and foreign service; the role of Congress in foreign relations.

545 (135). **Government and Business.** (3:3:0) A. Staff
General survey of governmental activities affecting business. Political, economic and legal bases of governmental regulation and limits and difficulties in applying such regulation.

550 (144). **Government of the Soviet Union.** (3:3:0) A. Mabey
Political heritage of Russia under the Czars; development of the U.S.S.R. and its political institutions, with reference to Marxist, Leninist, and Stalinist political ideology.

555 (145). **English Government and Politics.** (3:3:0) S. Carr
Development of the English Constitution; examination of growth of cabinet government; the Crown, Parliament, Civil Service; local and government administration; English judicial system.

556 (146). **Governments of the British Commonwealth.** (3:3:0) S. (1957-58 and alternate years.) Carr
Development of colonial and dominion status; governments of Canada, Australia, New Zealand, South Africa, with some attention to recent developments in the Far Eastern Dominions.

557 (148). **Government and History of Canada.** (3:3:0) W. (1957-58 and alternate years.) Grow

560 (149). **Governments of Latin-America.** (3:3:0) S. (1956-57 and alternate years.) Hunt
Growth and political development of countries in the Latin-American area, with special reference to Argentina, Brazil, and Mexico.

562 (150). **Government and Politics of China.** (3:3:0) S. Staff
Analysis of constitutional and political processes of the Republic of China and the present Communist government.

565 (159). **International Organization.** (3:3:0) A. (1957-58 and alternate years.) Riggs
History and structure of international organizations, with particular emphasis on the United Nations organization and its specialized agencies.

570 (170). **International Relations.** (5:5:0) W. (1957-58 and alternate years.) Carr
International relations in the contemporary world. Development of the modern state system, problems of international relations, and emergence of international law and government.

571 (175). **Development of American Foreign Policy.** (5:5:0) S. Hunt
Role of the United States in international affairs from colonial times to the present.

575 (179). **International Law I.** (3:3:0) Reeder
Nature and function of international law; recognition, succession, juris-

diction, rights, and immunities of states; nationality and jurisdiction over nationals.

576 (180). **International Law II.** (3:3:0) S. Reeder
Jurisdiction over aliens; international responsibilities; status, and immunities of diplomatic officials; treaties; legal regulation of the use of force.

580 (171). **Foundations of National Power (The Americas).** (3:3:0) A. Fisher
Analysis of the Western hemispere in terms of geography, natural resources, relations among American nations, demography, and inter-continental relations.

581 (172). **Foundations of National Power (Europe).** (3:3:0) W. Fisher
Analysis of the European continent in terms of geography, natural resources, relations among European nations, and demography; intercontinental relations.

582 (173). **Foundations of National Power (Near and Middle East).** (5:5:0) S. (1957-58 and alternate years.) Reeder
Analysis of the Near and Middle East from the perspective of geography, natural resources, population, politics, international relations.

583 (174). **Foundations of National Power (Far East and Pacific).** (3:3:0) A. (1956-57 and alternate years.)
Analysis of the Far East and Pacific Basin from the perspective of geography, natural resources, population, politics and international relations.

590 (181). **Jurisprudence.** (4:4:0) S. (1958-59 and alternate years.) Caldwell
Problem approach to ancient and modern legal philosophies, with special attention given the nature of justice and the relation of law and morality.

591 (182). **Introduction to Anglo-American Legal Institutions.** (4:4:0) S. (1957-58 and alternate years.) Caldwell
Origins and development of common law and equity, the writ system, court systems, basic legal terms, the anatomy of a law suit.

593 (183). **Administrative Law of the U.S.** (5:5:0) S. (1956-57 and alternate years.) Reeder
Legal setting for administrative bodies and judicial control of administrative action. Cases in administrative law read and discussed.

595 (185). **American Constitutional Development.** (3:3:0) W. Prerequisite: Political Science 110. Jensen
History and development of the Constitution; study of its fundamental provisions, their interpretation and application in the functioning of the American system of government.

596 (186). **Constitutional Law of the U.S. I.** (5:5:0) A. Prerequisite: Political Science 110. Reeder
The American federal system.

597 (187). **Constitutional Law of the U.S. II.** (5:5:0) W. Prerequisite: Political Science 110. Staff
Fundamental rights and immunities.

Graduate Courses

601 (202). **Modern Political Philosophy.** (3:3:0) S. (1958-59 and alternate years.) Caldwell

605 (203). **Roots of American Democracy.** (3:3:0) W. (1957-58 and alternate years.) Caldwell

610 (210). **American Political Problems.** (3:3:0) A. (1957-58 and alternate years.) Grow

630 (230). Comparative Public Administration. (3:3:0) S. (1958-59 and alternate years.) Grow

635 (232). State and Municipal Administration. (3:3:0) W. (1957-58 and alternate years.) Staff

650 (240). Democratic Governments. (3:3:0) W. (1957-58 and alternate years.) Riggs

651 (241). Totalitarian Governments. (3:3:0) S. (1957-58 and alternate years.) Mabey

665 (269). International Organization in the 20th Century. (3:3:0) A. (1957-58 and alternative years.) Riggs

670 (270). International Relations in the 20th Century. (3:3:0) W. (1958-59 and alternate years.) Riggs

675 (280). Modern International Law. (3:3:0) S. (1957-58 and alternate years.) Reeder

690 (288). Supreme Court of the United States. (3:3:0) S. (1957-58 and alternate years.) Caldwell

696 (286). Constitutional Law in the 20th Century. (3:3:0) A. (1957-58 and alternate years.) Reeder

698 (298). Directed Readings in Political Science. (1 or 2:0:1 or 2) A.W.S. Staff

699 (300). Thesis for Master's Degree. (4 or 6:0:4 or 6) A.W.S. Staff

This course also counts in Political Science:

Economics 575. Government Finance. (5:5:0)
Geography 584. Political Geography. (3:3:0)

Portuguese

(See courses in Languages.)

Poultry Husbandry

(See courses in Animal Husbandry.)

Pre-Dental

(See College of Biological and Agricultural Sciences.)

Pre-Legal

(See College of Humanities and Social Sciences.)

Pre-Medical

(See College of Biological and Agricultural Sciences.)

Pre-Optometry

(See College of Biological and Agricultural Sciences.)

Pre-Osteopathy

(See College of Biological and Agricultural Sciences.)

Pre-Pharmacy

(See College of Biological and Agricultural Sciences.)

Pre-Veterinary

(See College of Biological and Agricultural Sciences.)

Psychology

Professor: M. K. Allen (chairman, 1230 SFLC).
Associate Professors: Howell, C. Taylor.
Assistant Professors: Hardy, J. W. Moffitt, F. R. Wilkinson.

The science of psychology has a place in the general education of everyone in his search for an understanding of himself and others. It concerns itself with such questions as How does man experience and react to the world around him? What factors and processes underlie the mental life and behavior of individuals and groups?

Psychology has specific relevance for students preparing for careers in teaching, counseling, industrial relations, social work, law, medicine, and many branches of government service. Furthermore, it enriches and clarifies for the individual many of the concepts in the other sciences in the humanities, and in the arts.

For a major in psychology, a total of 45 hours is required, including Psychology 111, 360, 365, 370, 374, 378, and one seminar. The remainder of the program must be elected from upper division courses. A maximum of 10 of the 45 hours may be chosen from a selected list of courses in other departments, with the consent of the department adviser.

Students minoring in psychology are urged to contact an adviser in the department early in order to work out a program adapted to their individual needs.

This year a program for training of school psychologists is being introduced in collaboration with the Department of Educational Research and Services. This is a master's degree program, but interested students should commence the foundation courses early in their undergraduate years.

Lower Division Courses

101 (1). Effective Study. (2:2:0) A.W.S. Staff
Budgeting time, notemaking, memorizing, improvement of reading, use of library, etc. Open to lower division students only, except by consent of instructor.

105 (5). Psychology of Adjustment. (3:3:0) A.W.S. Staff
Applications of psychology to typical problems of college students in such areas as emotional, social, and vocational adjustment. Not intended for those who have taken or will take Psychology 111.

111 (11). General Psychology. (5:5:0) A.W.S.Su. (G-SS) M. K. Allen, Hardy, Howell, J. W. Moffitt, C Taylor, F. R. Wilkinson
Foundation course covering essentials of modern scientific psychology. Prerequisite for all upper division psychology classes.

205 (22). Applied Psychology. (3:3:0) A.W.S. (†G-SS) Prerequisite: Psychology 111. Staff
Survey of applications of psychological principles and techniques in the fields of business, industry, advertising and selling, legal procedures, medicine and education.

Upper Division Courses

311 (112). Advanced General Psychology. (5:5:0) A.W. Prerequisite: Psychology 111. M. K. Allen
Intensive survey of the general field with special emphasis on topics not covered in detail in Psychology 111. Intended for minors or other advanced students not planning to take Psychology 360, 365, and 378.

320 (120). **Psychology of Childhood.** (3:3:0) A.W.S. (†G-SS) Prerequisite: Psychology 111. Howell, C. Taylor

Critical presentation of research on physical, mental, emotional and social development of the child and his interests, values, and motivations. Primarily for majors and minors.

321 (122). **Psychology of Adolescence.** (3:3:0) A.W. (†G-SS) Prerequisite: Psychology 111. Howell, C. Taylor

Development and maturation during adolescence, with special attention to research methodology. Programs of sex-social adjustment, independence, vocational adjustment, emotional and social maturing in our society.

330 (164). **Industrial Psychology.** (3.3.0) A.S. Prerequisite: Psychology 111. Hardy, J. W. Moffitt

Special application of psychology in human relations program for management. Important issues in relation to motivation, morale, safety efficiency, etc.

335 (165). **Business Psychology.** (3:3:0) A.S. Prerequisite: Psychology 111. J. W. Moffitt

Psychological aspects of business, especially in advertising, personal selling and research techniques in these fields.

337 (167). **Personnel Psychology.** (3:3:0) A.S. Prerequisite: Psychology 111. Staff

Selection, application, and interpretation of psychological tests; job analysis; personality problems of the worker.

340 (143). **Mental Hygiene.** (3:3:0) A.W.S. (G-SS) Prerequisite: Psychology 111. B. Robinson, C. Taylor, F. R. Wilkinson

Intended to yield insight into prevention and amelioration of mental and personal difficulties. Important for prospective parents, teachers, and social workers.

360 (110). **Cognitive Processes.** (4:4:0) A.W. Prerequisite: Psychology 111. M. K. Allen, F. R. Wilkinson

Core course for majors, minors and other advanced students. Theories of and function; learned and unlearned factors in perception; thinking; relationships to other psychological functions.

365 (111). **Motivation.** (4:4:0) W.S. Prerequisite: Psychology 111. Hardy, J. W. Moffitt

Core courses for majors, minors and other advanced students. Theories of motivation; research methods and results; bases of motivation; emotions and motivation; measuring motivation; motivation as related to learning and cognitive processes; practical implications of motivation study.

370 (113). **Elementary Statistics.** (5:6:0) A.S. Howell

Logic and understanding of basic descriptive and inferential statistics. Problems and techniques of central tendency, variability, standard error, concepts of significance and correlation.

374 (115). **Experimental Psychology.** (4:2:6) A.W. F. R. Wilkinson

Exploring application of experimental methods to a wide variety of psychological areas including cognition, learning, motivation and abilities.

378 (116). **Abilities.** (4:4:0) A.S. Prerequisites: Psychology 111 and 370. Howell, C. Taylor

Core course for majors, minors, and other advanced students. Statistical methodology of assessing and interpreting abilities; tests of abilities and their purposes; group differences of abilities.

391, 392 (191, 192). **Psychology Seminar.** (1:2:0 ea.) A.W.S. One seminar required of psychology majors. Staff

Reports and discussion of special topics and current psychological literature.

426 (126). Development and Adjustment During the Middle and Later Years. (3:3:0) W. (†G-SS) Prerequisite: Psychology 111. C. Taylor

Research in physical, emotional, intellectual and social changes in the adult years and cultural factors that influence them.

440 (130). Clinical Psychology. (3:3:0) A. Prerequisite: Psychology 111. B. Robinson, C. Taylor

Survey of the field of clinical psychology; professional relationships; etiology of problem behavior; diagnostic techniques and remedial procedures; applications to home, school, industry, and community.

445 (131). Exceptional Children. (3:3:0) A. Prerequisite: Psychology 111. M. K. Allen, C. Taylor

Diagnosis of exceptionality; psychological significance; gifted, mentally retarded, physically and emotionally handicapped children; treatment measures. Survey course for students interested in management of children.

455 (145). Social Psychology. (5:5:0) S. (†G-SS) Prerequisite: Psychology 111. Hardy

Nature of social influence; socialization; concepts of norm, role, status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.

493, 494 (193, 194). Psychology Seminar. (1:2:0 ea.) A.W.S. One seminar required of psychology majors. Staff

Reports and discussions of special topics and current psychological literature.

495, (198). Independent Readings. (1-3:1-3:0) A.W.S. Staff

Advanced Undergraduate or Graduate Courses

510 (118). History and Modern Viewpoints. (5:5:0) A. Prerequisite: Psychology 111. Howell

Historical background of present-day psychology and comparative study of certain important contemporary trends in psychology.

540 (139). Abnormal Psychology. (3:3:0) S. Prerequisites: Psychology 111 and consent of instructor. M. K. Allen

Dynamics of maladjustment; implications for normal psychology; description and meaning of abnormal and unusual psychological functions; character disorders, psychoneuroses, and psychoses; modern therapeutic procedures.

543 (235). Mental Deficiency. (3:3:0) S. M. K. Allen

545 (237). Gifted Children. (2:2:0) S. M. K. Allen

547 (236). Psychology of the Physically Handicapped. (3:3:0) W. C. Taylor

550 (140). Psychology of Personality. (4:4:0) A. (†G-SS) Prerequisite: Psychology 111. J. W. Moffitt

Historical background; major theories; motivation; problems of traits, types, organization of personality; genetic and cultural determinants; marks of mature personality; modification of personality.

555 (245). Group Dynamics. (3:3:0) W. Hardy

560 (228). Psychology of Learning. (3:3:0) S. M. K. Allen

570 (213). Advanced Statistics (Second Course). (3:3:3) W. Howell

574 (New). Advanced Experimental Psychology. (3:2:7) S. F. R. Wilkinson

580 (180). Comparative Psychology. (5:5:0) W. Prerequisite: Psychology 111. F. R. Wilkinson

Tracing development of general laws of behavior through the animal kingdom as correlated with structure; methods of research in learning, motivation, social behavior, instinctive behavior, etc.

585 (181). Physiological Psychology. (5:5:0) S. Prerequisite: Psychology 111. F. R. Wilkinson

Correlation of the structure and physiology of the human organism with behavior to show underlying mechanisms by which behavior is controlled and manifested.

598 (299). Independent Research. (1-3:1-3:0) A.W.S. Staff

Graduate Courses

640 (231). Psychosomatic Problems. (3:3:0) A. B. Robinson

642 (230). Advanced Clinical Psychology. (2:2:0) W. C. Taylor

644 (272). Individual Test Practice. (5:2:6) W.S. Howell, B. Robinson

646 (273). Projective Techniques. (3:3:0) S. B. Robinson

650 (251). Personality: Culture and Adjustment. (3:3:0) A. Hardy

660 (250). Human Behavior Theory. (3:3:0) W. J. W. Moffitt

670 (214). Methods of Research. (3:3:0) W. J. W. Moffitt

691, 692 (291, 292). Seminar. (1:2:0 ea.) A.W.S. Staff

695 (298). Independent Readings. (1-3:1-3:0) A.W.S. Staff

699 (300). Thesis for Master's Degree. (Arr.) Staff

741 (New). Internship in Play Therapy. (3:2:7). Not given this year. C. Taylor

742 (New). Practicum in Special Clinical Testing. (3:1:6) W. Staff

744 (New). Practicum in Infant Tests. (3:1:6) A. Not given this year. Staff

746 (New). Practicum in Projective Techniques. (3:1:6) S. Staff

747, 748 (New). Internship in Clinical Testing. (3-6:2:7-16) A.W.S. Staff

Radio and Television

(See courses in Journalism and in Speech and Dramatic Arts.)

Recreation

Professors: I Heaton (chairman, 318 SFH), Hart, Hartvigsen, Holbrook, E. R. Kimball.

Assistant Professors: F. W. Dixon, A. Heaton.

Instructors: Calderwood, Hafen.

A student interested in recreation may complete courses for a recreation major, a minor, or a composite major. He may also take specified recreation courses to fill certain religion requirements, and he may register for recreation courses on an elective basis.

Recreation Major

A student majoring in recreation should take the following courses: Recreation 201, 387, 388, 503, 505, 537, 579; Health 121; Speech 103; Sociology 449; Ed. Inst. 324; P.E. 375 or 376; 15 hours of approved courses from the Departments of Physical Education, Art and Music and ten additional hours of approved electives.

Recreation Minor

Students minoring in recreation should take the following courses: Recreation 201, 387, 505, 537, and 13 hours of approved electives. (See department chairman for copy of complete 4-year course of study in recreation education.)

Lower Division Courses

121 (10). **Bowling.** (1:0:3) A.W.S. Fee. F. W. Dixon

123 (67). Skills and Techniques for Outdoor Recreation. (1:0:3) S. Staff

Skills and techniques in various outdoor recreation activities including fly-tying, skish, and fly-casting. Certain equipment including vise, feathers, thread, and hooks required of all students.

181 (81). South American Dances. (2:0:3) A.W.S. A. Heaton

201 (New). **Introduction to Recreation.** (3:3:0) A. I. Heaton

Upper Division Courses

331 (131). Theory of Play. (3:3:0) A. Holbrook

The theory of play and its organization. Gives consideration to history and classification of play, need for play in modern life, and play in education.

371 (HDFR 171). Planning for Family and Neighborhood Recreation. (2:2:0) A.W.S. Holbrook

Principles and techniques in arranging for and conducting recreational activities for a family group as well as for families in neighborhood groups.

387 (187). Planning for Social Recreation. (2:2:0) A.W.S. Staff

Principles and techniques in arranging for and conducting social recreation for family and church groups.

388 (188). Leadership in Church Dances. (2:2:0) A.W.S. A. Heaton

Given to meet needs of community, church, and school recreation leaders. Designed particularly to give experience and training in church dance program.

Advanced Undergraduate or Graduate Courses.

503 (138). Administration of School and Community Camps. (3:3:0) S. Staff
Objectives and problems involved in establishing community and school camps. Best practices dealing with location, safety, health, and program of activity thoroughly analyzed.

505 (New). Administration of Community Recreation. (3:3:0) A.. Staff
Problems peculiar to the organization and administration of a community recreation program including objectives, legal aspects, facilities, personnel, activities, budgeting, and public relations.

537 (137). Philosophy of Recreation. (3:3:0) W. I. Heaton
Importance of education for leisure and analysis of needs of individuals for recreation in our modern complex society.

579 (160). Directed Leadership in Recreation. (2-6:1:6-18) A.W.S. Staff
Supervised experience in public and private recreation programs. Register only with consent of Recreation Department chairman.

Graduate Courses

602 (230). Seminar in Administration. (3:3:0) W. Hartvigsen

607 (New). The Conduct of Playgrounds. (3:3:0) S . A. Heaton

609 (New). The Recreation Program. (3:3:0) A. I. Heaton

620 (235). Basic Relationships. (3:3:0) S. Staff

683 (283). Workshop in Recreation Dance. (2:2:0) A. A. Heaton

692 (292). Research in Recreation (5:5:0) A. Hart

694 (294). Seminar in Readings. (2:2:0) A.W.S. I. Heaton

699 (300). Thesis for Master's Degree. (2-6:2-5:0) A.W.S. I. Heaton

700 (301). Field Projects. (2-7:2-5:0) A.W.S. I. Heaton

These courses also count in Recreation:

Ed. Inst. 324. Arts and Crafts for Elementary Teachers. (2:2:2)
English 253. Introduction to Drama. (3:3:0)
Health 121. First Aid. (2:2:0)
Ind. Arts 260. Recreational Handicrafts. (1-3:0:2-6)
Ind. Arts 466. Art Metal Crafts. (2:0:4)
Journalism 211. News Writing. (3:2:2)
Journalism 212. Reporting. (3:1:6)
Music 102. Fundamentals of Music. (3:3:0)
Music 301. Hymnology and Elementary Baton Technique. (2:2:0)
Physical Education 603. Planning and Administration of Facilities. (3:3:0)
Physical Education 605. Personal and Public Relations in Health, Recreation and Physical Education. (3:3:0)
Physics 177. Physics of Light and Photography. (4:3:3)
Scouting Education 373. Boy Scout Leadership. (3:3:1)
Sociology 117. Group Relationships and Principles of Leadership. (3:3:0)
Sociology 449. Community Organization. (3:3:0)
Speech 103. Group Discussion. (2:2:0)

Other courses approved by chairman of Recreation Department may be used by recreation majors.

Religion

Professors: Sperry (director of graduate studies in religion, 122 S), Belnap (director of undergraduate studies in religion, 220 S), Done, Ellsworth, Nibley.

Associate Professors: Ludlow, R. R. Rich.

Assistant Professors: Anderson, H. L. Andrus, Bankhead, Barrett, J. R. Clark, Doxey, Horsley, G. O. Larson, Ricks, Riddle, L. M. Rogers, Yarn.

Instructors: Bennett, A. I. Bentley, Fitzgerald, Pearson, Rasmussen*, Turner.

Faculty members from other departments of the University also instruct classes in the Division of Religion.

UNDERGRADUATE STUDIES IN RELIGION

B. West Belnap, Director

General Education Requirements in the Division of Religion

Freshman and sophomore students should obtain a total of twelve hours' credit in the following areas:

Book of Mormon: Scripture 111, 112, 113
Church History 131, 132, 133
Missionary Training: L.D.S. Church Administration 141, 142, 143
New Testament: Scripture 123, 124, 125
Theology 101, 102, 103
Theology 104, 105, 106

Each of these courses carries two credit hours per quarter. It is recommended that a student follow all three courses of the sequences which are elected.

Juniors and seniors should obtain a minimum of six hours of upper division credit from the offerings of the Division of Religion which are not cross referenced from credit in other departments of the University. The remaining six hours of credit to fill the University requirement for graduation of twenty-four hours of credit in religion (or two hours per quarter for every quarter in residence) may be elected either from among the courses carrying cross-reference credit or from the other offerings of the Division of Religion.

All returned missionaries and transfer students ranking as juniors are not only permitted, but expected, to elect upper division courses in religion.

Archaeology

M. Wells Jakeman, Chairman

See list following graduate courses.

Bible and Modern Scripture

Roy W. Doxey, Chairman

This department is divided into the following areas:

Book of Mormon: 111, 112, 113, 325, 524, 590, 591, 592.
Doctrine and Covenants: 331, 332, 333, 590, 591, 592.
New Testament: 123, 124, 125, 313, 314, 315, 590, 591, 592.

Old Testament: 301, 302, 303, 505, 514, 590, 591, 592.
Pearl of Great Price: 338, 339, 344, 590, 591, 592.

Lower Division Courses

111, 112, 113 (11, 12, 13). Introduction to the Book of Mormon and Its Teachings. (2:2:0 ea.) A.W.S. (G-R) Staff
Consideration of origin, content and teachings of the Book of Mormon.

123, 124, 125 (23, 24, 25). An Introduction to the New Testament and Its Teachings. (2:2:0) ea.) A.W.S. (G-R) Staff
Life and teachings of Jesus and Paul and historical situations which gave rise to the New Testament.

Upper Division Courses

301, 302, 303 (101, 102, 103). The Old Testament. (2:2:0 ea.) A.W.S. (G-R) Rasmussen, Rogers
Structure and religious content of the Old Testament. An attempt is made to show that Israel's leaders had a vital religious message for the world of today.

313 (113). The Life of Christ. (2:2:0) A. (G-R) Bankhead, Bentley
Consideration of sources for the life of Christ; political, religious, and geographical environment. Analysis of the the Savior's prominent teachings and study of the Passion Week and resurrection period.

314 (114). Paul the Apostle and Missionary. (2:2:0) W. (G-R) Bankhead, Bentley
Examination of the life and teachings of the Apostle; his missionary problems and their resolution; results of his work.

315 (115). An Historical Examination of the New Testament. (2:2:0) S. (G-R) Bankhead, Bentley
Analysis of the structure of the New Testament. Consideration of its writings and forces which produced them.

325 (125). The Doctrines of the Book of Mormon. (2:2:0) A.W.S. (G-R) Bankhead, Ludlow
Advanced course dealing with doctrines and teachings of Nephite sacred scripture. Recommended especially for students who have not had Scripture 111, 112, 113.

331, 332, 333 (131, 132, 133). The Doctrine and Covenants. (2:2:0 ea.) A.W.S. (G-R) Andrus, Doxey
Study of origin and content of the Doctrine and Covenants.

338 (138). The Pearl of Great Price. (2:2:0) A.W.S. (G-R) J. R. Clark
Preliminary study of origin and content of the Pearl of Great Price.

339 (139). Doctrines of the Pearl of Great Price. (3:3:0) A.W.S. (G-R) J. R. Clark
Advanced course dealing with doctrines and teachings of the Pearl of Great Price.

344 (144.) Teaching the Scriptures. (2:2:0) A.W.S. L. Anderson
Designed for prospective seminary teachers. Admission by permission of the instructor.

Advanced Undergraduate or Graduate Courses

505 (104). The Spirit of the Old Testament. (2:2:0) S. (G-R) Not given this year. Rasmussen
Analysis of literary problems, religion, and spirit which characterize the Old Testament.

514 (111). **Israel's Prophets.** (2:2:0) A.W.S. (G-R) Rasmussen, Rogers, Sperry
Messages of Old Testament prophets—major and minor—are examined for the value they have and have had both in their time and in ours.

524 (124). **Analysis of the Book of Mormon.** (2:2:0) A.W.S. (G-R) Sperry
Critical analysis of Nephite literature.

590, 591, 592 (141, 142, 143). **Seminar.** (Arr.) A.W.S. Staff
For senior or other advanced students who desire to pursue specialized problems related to the Bible and modern scripture. Admission by permission of instructors.

Church History

Russell R. Rich, Chairman

Lower Division Courses

131, 132, 133 (31, 32, 33). **Latter-day Saint History and Doctrine.** (2:2:0 ea.) A.W.S. (G-R) Staff
Survey course in the history of the Church with progressive study of the development of its institutions, beliefs, doctrines, and religious practices in relation to this social and historical setting.

Upper Division Courses

301, 302, 303 (101, 102, 103). **History of the Church of Jesus Christ of Latter-day Saints.** (2:2:0 ea.) A.W.S. (G-R) Recommended for juniors or seniors who have not had 131, 132, 133. Andrus, Barrett, Horsley, Larson, Rich
Intensive study of the history of the Church from 1805 to 1847.

304, 305, 306 (104, 105, 106). **History of the Church of Jesus Christ of Latter-day Saints.** (2:2:0 ea.) A.W.S. (G-R) Barrett, Larson, Rich
Intensive study of the history of the Church from 1848 to the present.

307 (107). **Biographies of L.D.S. Leaders.** (2:2:0) A.W.S. (G-R) Staff
A biographical study of significant L.D.S. Church personalities of the first half century of the restoration, including a number of lesser known leaders.

Advanced Undergraduate or Graduate Courses

501 (New). **Great Figures in Christian History.** (2:2:0) S. Horsley
Biographical study of significant Christian personalities and their contributions to Christianity from Paul to Joseph Smith.

502 (New). **Martin Luther - Forerunner of the Restoration.** (2:2:0) S. Horsley
Study of Luther's life, theology, and influence upon Protest-Christianity, with special emphasis upon the significance of Luther for Mormonism.

514 (114). **The Primitive Church and the Apostasy.** (2:2:4) A.W.S. (G-R) Nibley

515 (115). **The Rise of the Western Church, to 600 A.D.** (2:2:0) W. (G-R) Nibley

516 (116). **The Medieval Church, 600-1500 A.D.** (2:2:0) S. (G-R) Nibley

L.D.S. Church Organization and Administration

G. Byron Done, Chairman

This department is divided into the following areas:

Church Welfare: 311
Genealogy: 317, 318.
General: 349, 351, 352, 353
Missionary Methods: 141, 142, 143, 321, 322, 323, 346, 347, 348
Priesthood: 301

Classes in missionary methods are provided primarily for students who look forward to missionary service in the stakes and missions of the Church. Courses 321, 322, and 323 form a single unified fifteen-hour program for persons who desire, for a single quarter, to study problems related to the presentation of the gospel. Lower division students may be admitted by consent of the instructor.

Lower Division Courses

141, 142, 143 (41, 42, 43). Missionary Approach to the Gospel. (2:2:0 ea,) A.W.S. (G-R) Staff
Open to all students. Intended for those who cannot elect the more intensive missionary-training course.

Upper Division Courses

301 (101). Priesthood and Church Government. (2:2:0) A.W.S. (G-R) Doxey, H. R. Clark
Powers, authority, and functions of the priesthood and its role in Church government.

311 (111). The Church Welfare Program. (2:2:0) A.W.S. (G-R) Doxey
Historical development and economic and spiritual aspects of the L.D.S. Welfare Program.

317 (117). The Principles of Genealogy and Temple Work. (2:2:0) A.W.S. (G-R) Bennett
Principal topics: genealogy in the plan of salvation, mission of Elijah, research, pedigree, family and temple records, Genealogical Society of Utah, church ordinances, marriage, and temple work. Class trip to office of genealogical society.

318 (118). Methods of Genealogical Research. (2:2:0) A.W.S. (G-R) Prerequisite: Ch. Adm. 317 or consent of instructor. Bennett

321 (121). Latter-day Saint Doctrine. (5:5:0) A.W.S. (G-R) Bankhead, Ellsworth
Scriptural approach to certain vital doctrinal themes commonly used in the mission field.

322 (122). Latter-day Saint Doctrine. (5:5:0) A.W.S. (G-R) Doxey
Continuation of study of vital doctrinal themes commonly used in the mission field.

323 (123). Great L.D.S. Missionaries. (5:5:0) A.W.S. Not given this year. Staff
Examination of the writings, methods, and spirit of certain great Latter-day Saint missionaries.

346, 347, 348 (146, 147, 148). Missionary Leadership. (2:2:0 ea.) A.W.S. Not given this year. Bankhead, Ricks

349 (149). Economics of the Gospel Plan. (2:2:0) A.S. (G-R) Ellsworth
Art of applying principles and philosophy of the gospel to everyday situations, including vocational selection, personal records, investments, insurance, purchasing, etc.

351, 352, 353 (151, 152, 153). Church Administration. (5:5:0; 3:3:0; 3:3:0) A.W.S. (351, S. also) Not given this year. Staff
Consecutive courses. Autumn: understanding children; Winter: curriculum, methods, and practice teaching. Spring: supervision. For teachers, executive officers, and stake board members of the auxiliary organizations.

These courses also count in L.D.S. Church Organization and Administration:

Music 301. Hymnology and Elementary Baton Techniques. (2:2:0)
Music 302 Ward Choir Direction and Intermediate Baton Technique. (2:2:0)
Music 383. History of Sacred Music. (2:2:0)
Recreation 387. Planning for Social Recreation. (2:2:0)
Recreation 388. Leadership in Church Dances. (2:2:0)
Scouting Education 377. Scouting in the L.D.S. Church. (2:2:1)
Speech 412. Religious Drama. (2.2:0)

Theology and Philosophy

Chauncey C. Riddle, Chairman

THEOLOGY

Lower Division Courses

101, 102, 103 (1, 2, 3). An Introduction to Mormonism. (2:2:0) A.W.S. (G-R) Staff
Examination of basic principles of Latter-day Saint theology for non-L.D.S. investigators of the gospel.

104, 105, 106 (4, 5, 6). The Principles and Doctrines of Mormonism. (2:2:0) A.W.S. (G-R) Staff
Consideration of basic principles and doctrines of the Church of Jesus Christ of Latter-day Saints.

Upper Division Courses

301, 302, 303 (101, 102, 103). The Principles, Doctrines, and Philosophy of the Church of Jesus Christ of Latter-day Saints. (2:2:0) A.W.S. (G-R) Doxey, Ludlow, Turner
Distinctive doctrines and principles of the restored gospel of Jesus Christ. Recommended for upper division students who have not had 104, 105, 106.

325 (125). The Scientist Looks at Religion. (2:2:0) Not given this year. Staff
Certain concepts of religion in the light of modern science.

332 (132). Your Religious Problems. (2:2:0) A.W.S. Belnap
Consideration of problems pertaining to the individual student.

Advanced Undergraduate or Graduate Courses

590, 591, 592 (131, 133). Seminar. (Arr.) A.W.S. Staff

PHILISOPHY

Upper Division Courses

308 (108). Survey of Philosophy. (3:3:0) A.W.S. (G-R; G-HA) Yarn
Introduction to types, fields, and problems of philosophy.

310 (110). Introduction to Logic. (3:3:0) A.W.S. (G-R; G-HA) Riddle
Formal aspects of language, deductive logic and scientific method.

313, 314, 315 (113, 114, 115). Moral Values, A Comparative Study. (2:2:0) A.W.S. Not given this year. Staff
Conduct patterns suggested by Latter-day Saint concepts of personal immortality, eternal progression, and the eternity of the family union.

Advanced Undergraduate or Graduate Courses

511 (111). Philosophy of Science. (3:3:0) (G-R; G-HA) Prerequisite: Phil. 308 or consent of instructor. Riddle

Discussion of methods, postulates, and conceptual framework of modern physical science.

512 (112). **Problems of Knowledge.** (3:3:0) (G-R; G-HA) Prerequisite: Phil. 308 of consent of instructor. Riddle
Analysis of how experience becomes knowledge.

GRADUATE STUDIES IN RELIGION

Sidney Sperry, Director

Church History and Philosophy

Advanced Undergraduate or Graduate Courses

521, 522, 523 (221, 222, 223). **Special Problems in L.D.S. Church History.** (2:2:0 ea.) A.W.S. Larson, Rich

524 (New). **Social, Economic, and Political Aspects of Joseph Smith's Thought.** (3:3:0) A.W.S. Andrus

531, 532, 533 (241, 242, 243). **Historical Development of L.D.S. Doctrines and Practices.** (2:2:0 ea.) A.W.S. Andrus, Rich

534 (244). **Advanced Theology.** (2:2:0) S. Staff

541, 542 (New). **The Reformation and Counter-Reformation.** (2:2:0 ea.) A.W. Horsley

543 (New). **The History of American Religion.** (2:2:0) S. Horsley

544 (New). **History of the Papacy.** (2:2:0) A. Horsley

545 (New). **Contemporary European Christianity.** (2:2:0) W. Horsley

546 (New). **Scholasticism, Humanism, and Mysticism.** (2:2:0) W. Horsley

551 (261). **World Religions: Principles of Comparative Religion.** (2:2:0) A. Nibley

552 (262). **World Religions: Islam.** (2:2:0) W. Nibley

553 (263). **World Religions: Christian Ritual and Liturgy.** (2:2:0) S. Nibley

554 (264). **The End of the Ancient World.** (3:3:0) S. Nibley

555 (New). **World Religions.** (2:2:0) L. M. Rogers

561 (271). **Research Problems in Genealogy.** (2:2:0) A.W.S. Prerequisite: Church Administration 318. Bennett

571 (281). **History of Ancient Philosophy.** (3:3:0) A. Yarn

572 (282). **History of Medieval Philosophy.** (3:3:0) W. Yarn

573 (283). **History of Modern Philosophy.** (3:3:0) S. Yarn

574 (284). **Recent American Philosophy.** (3:3:0) S. Not given this year. Yarn

575 (285). **Ethical Theory from Plato to Dewey.** (3:3:0) Not given this year. Yarn

576 (286). **History of Christian Thought.** (2:2:0) Not given this year. Yarn

577 (287). **Survey of Patristic Literature.** (2:2:0) S. Nibley

578 (288). **Types of Religious Philosophy.** (3:3:0) W. Not given this year. Yarn

Graduate Course

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

Scripture

Advanced Undergraduate or Graduate Courses

501 (201). **The History of Israel.** (3:3:0) A. Rasmussen, Rogers, Sperry

502 (202). **The Prophets of Israel.** (3:3:0) W. Rasmussen, Rogers, Sperry

503 (203). **The Manners and Customs of the Hebrews.** (2:2:0) S. Sperry

504 (204). **Interpreting the Old Testament.** (2:2:0) W. Rasmussen, Rogers, Sperry

506 (206). **The Life and Teachings of Christ.** (3:3:0) A. Staff

507 (207). **The Life and Letters of Paul.** (3:3:0) W. Staff

508 (208). **The Non-Pauline Epistles and the Apocalypse.** (2:2:0) S. Staff

509 (209). **Interpreting the New Testament.** (2:2:0) S. Staff

511 (211). **An Analysis of the Book of Mormon.** (2:2:0) A. Sperry

513 (213). **An Analysis of the Doctrine and Covenants.** (2:2:0) W. Sperry

515 (215). **The Pearl of Great Price.** (2:2:0) S. J. R. Clark

Graduate Course

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

Semitic Languages

Advanced Undergraduate or Graduate Courses

511, 512, 513 (221, 222, 223). **Elementary Hebrew.** (5:5:0 ea.) A.W.S. No prerequisites. Staff

Taught as a "living language" for use both by those who wish to converse and those who wish to use it as a tool for studying and teaching the Old Testament. Methods and materials for teaching Hebrew in the light of modern language methodology are taught. Open to qualified undergraduates with consent of instructor.

514 (224). **Advanced Hebrew Grammar.** (3:3:0) A. Staff

515 (225). **Hebrew Syntax and Selected Readings from Jonah and Ruth.** (3:3:0) W. Staff

516 (226). **Hebrew Syntax and Selected Readings from Judges and Samuel.** (3:3:0) S. Staff

517 (227). **The Hebrew Text of Haggai, Amos, and Malachi.** (2:2:0) A. Prerequisite: two years of Hebrew or consent of instructor. Rasmussen, Sperry

518 (228). **The Hebrew Text of Obadiah, Joel, and Zechariah 9-14.** (2:2:0) A. Prerequisite: two years of Hebrew or consent of instructor. Rasmussen, Sperry

519 (229). **Selected Portions of the Hebrew Text of Isaiah.** (2:2:0) S. Prerequisite: two years of Hebrew or consent of instructor. Rasmussen, Sperry

Graduate Courses

600 (230). **The Hebrew Text of Psalms.** (2:2:0) A. Prerequisite: two years of Hebrew or consent of instructor. Sperry

601, 602, 603 (231, 232, 233). Biblical Aramaic and the Targums. (2:2:0 ea.) A.W.S. Prerequisites: 511, 512, 513. Sperry

604 (234). The Reading of Ancient Hebrew Inscriptions. (2-3:2-3:0) Given on demand. Prerequisites: two years of Hebrew or consent of instructor. Sperry

611, 612, 613 (241, 242, 243). Elementary Syriac. (3:3:0 ea.) A.W.S. Prerequisites: 511, 512, 513. Sperry

614, 615, 616 (244, 245, 246). Advanced Syriac. (2:2:0 ea.) A.W.S. Sperry

621, 622, 623 (251, 252, 253). Elementary Akkadian. (2:2:0 ea.) A.W.S. Prerequisite: two years of Hebrew or consent of instructor. Sperry

625, 626, 627 (255, 256, 257). Elementary Egyptian. (2:2:0 ea.) A.W.S. Prerequisite: two years of a Semitic language or consent of instructor. Staff
Hieroglyphics.

699 (300). Thesis for Master's Degree. (Arr.) Staff

RELIGIOUS EDUCATION

Graduate Courses

601 (Ch. H. 201). Survey of Religious Education. (2:2:0) Not given this year. Belnap

602 (Ch. H. 202). Methods and Techniques for Religious Educators. (2:2:0) Not given this year. Belnap

603, 604 (New). Methods of Teaching Religion in the Secondary School. (3:5:0 ea.) Su. Berrett

Each student is to register for both courses, one course one summer and the other course the following summer in which he is in residence. Each course takes up one aspect of the problems in teaching religion. The two courses deal in general with the same area but divide between them specific materials involved.

605, 606 (New). Curriculum of Religion in Secondary Schools. (3:3:0 ea.) Su. Berrett

These courses are to be taken in sequential registration to deal with the two different major aspects of curriculum development in the L.D.S. Seminary System. One course deals with the development of courses in the Bible and the other with courses in church history and doctrine. However, it will be necessary, in keeping with the personnel registered from time to time, to change the alignment of specific subject matter from one course to the other.

607, 608 (New). Methods of Religious Instruction in Colleges. (3:5:0 ea.) Su. Berrett

609, 610 (New). Curriculum of Religion in Colleges. (3:5:0) Su. Berrett

These sets of courses are similar to the ones described above for seminary teachers except that they are for institute teachers and are aimed at college-level programs.

611 (Ch. H. 251). Problems in Teaching Religion. (2:2:0) S. Staff

These courses also count in Religion:

Archaeology 310. General Near Eastern and Biblical Archaeology. (3:3:0)
Archaeology 360. Ancient Civilizations of America. (3:3:0)
Archaeology 596, 597. Readings in Archaeology. (2:2:0 ea.)

Human Development and Family Relationships 261. The Latter-day Saint Family. (2:2:0)

Languages: French 301, 302, 303. The Gospel in French. (2:2:0 ea.)

Languages: German 301, 302, 303. The Gospel in German. (2:2:0 ea.)

Languages: Spanish 301, 302, 303. The Gospel in Spanish. (2:2:0 ea.)

R.O.T.C.

(See courses in Air Science.)

Russian

(See courses in Languages.)

Scouting Education

Associate Professor: Royal B. Stone (chairman, 205 SFH)

A major in youth leadership is given through the College of Recreation, Physical and Health Education, and Athletics.

Requirements for a Major

Thirty-five hours of upper division credit in scouting education courses are required plus the following courses from the College of Recreation, Physical and Health Education, and Athletics: Health Education 121, 130, 325; Physical Education 123, 135, 144, 146, 164, 165, 226; Recreation 331, 537.

Other elective courses are recommended to provide additional experience and opportunities for the student: Physical Education 133, 180, 181, 182; Recreation 503.

Suggestion for a Minor

Twenty-four hours of credit are required for a minor in youth leadership. Scouting education courses are required as follows: 311, 312, 372, 373, 374, and other approved courses in allied fields.

Upper Division Courses

301 (101). National Camp School. (1:lecture and lab. for 8 full days and nights) Su. Nat'l Staff
Required of scouting majors only. This is a course given by the National Council, Boy Scouts of America.

302 (102). Summer Camp Administration. (1: full summer) Su. Nat'l Staff
Required of scouting majors only. Each scouting major will be required to serve on a local summer camp council staff for at least one summer camp season.

305, 306, 307 (130a, b, c). Council Operating Committees and Their Function. (3:3:1 ea.) A.W.S. Stone
Study of how operating committees establish the program and objectives to bring the full scouting program, through district committees and unit leaders, to the boy.

310 (133). History and Development of the National and Local Council. (3:3:0) W. Stone
Divided into two parts: organization of the national council, its function, relation and service to local councils; and organization of the local council, its functions, relation, and service to sponsoring bodies.

311 (131). Commissioner Service. (3:3:1) A. Stone
Duties and responsibilities of the council, district, assistant dsitrict, and neighborhood commissioners. Includes techniques of guiding committee personnel and conducting district roundtable meetings.

312 (134). District Operation. (3:3:0) A.S. Stone
Designed to teach the student the operations and functions of the district committee.

332 (132). Scouting's Sponsors and Public Relations. (2:2:0) W. Stone
Study of scouting's relationships to its major sponsoring bodies. churches (Protestant, Catholic, Jewish, Church of Jesus Christ of Latter-day Saints), service clubs, fraternal orders, government agencies, schools. Study of the public relations program of the Boy Scouts of America.

372 (122). **Cub Leadership.** (3:3:1) A. Stone
Designed to teach men how to administer the cub scout program within an institution.

373 (123). **Boy Scout Leadership.** (3:3:1) W. Stone
Designed to teach men how to use the patrol method to bring scouting to boys 11-14 years of age.

374 (124). **Explorer Leadership.** (3:3:1) S. Stone
Arranged to bring to students the latest techniques in working with young men 14-17 years of age and bringing them the explorer program (land exploring, sea exploring, and air exploring).

375 (125). **Program Planning.** (3:3:0) A. Stone
Involves the student in actual unit program planning processes, combined with practical application of principles of program planning in unit situations in the local council.

377 (Ch. Adm. 167). **Scouting in the L.D.S. Church.** (2:2:1) A.W.S. Stone
Not required for Youth Leadership major. Designed to acquaint students in church administration with functions and place of cubbing, scouting, and exploring in the Church.

390 (190). **Field Activity Course.** (1:1:1) W. Stone
Camporee, rally, circus, expositions and cub craft shows are media through which Scouting demonstrates to its public what it is doing with and for youth.

391 (120). **Conference Planning Techniques.** (2:2:1) S. Stone
Theory and practice of planning conferences. Various techniques of pre-conference involvement. Laboratory: Explorer Scout Conference and/or Boy Scout Pow-wow on B.Y.U. campus.

Scripture

(See courses in Religion.)

Secondary Education

(See courses in Education: Instruction.)

Secretarial Training

(See courses in Business Education and Office Management.)

Semitics

(See courses in Languages and in Religion.)

Sewing

(See courses in Clothing and Textiles.)

Sociology

Professors: Bradford (chairman, 1216A SFLC), Ballif*, Lloyd, Symons.
Associate Professors: Canning, Smith.
Assistant Professors: Christiansen, Dyer, Empey, V. W. Larsen, Payne, Slater.

Sociology is one of the social sciences which study human behavior. Specifically, sociology studies how behavior is affected by the fact that men interact with one another, live in groups, and develop social systems, institutions, roles, statuses and culture.

Sociology, therefore, has relevance for those planning careers of social work, teaching, counseling, research, scouting, Red Cross work, community planning and government service.

Requirements for a Major

Majors in the department are required to take Sociology 111, 112, 303, 310, 320, 322, 504, 528, and to present total sociology credit of 45 hours or more. A maximum of 10 of the 45 hours may be chosen from a selected list of courses in other departments, with consent of the department adviser.

Recommended courses, beyond those required, are listed below for each of several goals that sociology majors might have in mind:

General cultural education: any or all courses.

Teaching: 111, 112, 117, 314, 340, 351, 380, 389, 392, 400, 402, 420, 423, 426, 440, 443, 446, 449, 460, 512.

Social work: 314, 316, 348, 351, 360, 362, 363, 380, 389, 392, 400, 402, 426, 449.

Research and/or graduate study: 314, 320, 322, 400, 402, 420, 426, 446, 508, 516, 520, 524.

Sociology is one of the subjects comprising the composite major in social science designed for prospective teachers. (See page 113.)

Suggestion for a Minor

Ten hours of upper division courses plus Sociology 111 and 112.

Lower Division Courses

111 (11). Introductory Sociology. (5:5:0) A.W.S. (G-SS) Staff
Foundation course designed to give groundwork for all sociological study. Presents general view of how social organization affects human behavior.

112 (12). Social Problems. (5:5:0) A.W.S. (G-SS) Staff
Analyzes forces within society which produce disorganization. Considers specific problems such as crime, race relations, mental health, divorce, alcoholism, and delinquency.

113 (13). Foundation for Marriage. (2:2:0) A.W.S. Staff
Attempts to prepare individual for a successful marriage. Emphasis is given to such areas as dating, mate selection, engagement, and religious factors in marriage.

117 (17). Group Relationships and Principles of Leadership. (3:3:0) A. Larsen, Bradford
Designed to help the individual participate effectively in group life and assist leaders to become efficient in role performance.

125 (New). Applied Sociology. (3:3:0) A.W.S. (G-SS) Staff
Presents applications of sociological principles and teachings in such fields as teaching, business and industry, nursing, military life, and medicine.

Upper Division Courses

303 (103). Development of Sociological Thought. (3:3:0) A. Bradford, Canning
Analytical study of leading sociological thought from early times to and including the work of Herbert Spencer. Considers the origin of scientific sociology.

310 (110). Advanced General Sociology. (3:3:0) S. Bradford, Canning, Dyer
Analysis of generalizations derived by sociology concerning how social interaction, groups, institutions, roles, statuses and culture affect human behavior.

314 (114). Social Psychology. (3:3:0) W. (G-SS) Canning, Larsen
Studies processes by which the individual develops motives and attitudes. Considers functions for social norms and importance of communication in behavior.

316 (116). Social Control. (3:3:0) S. Larsen, Smith
Studies importance of public opinion, belief, social suggestion, ceremony, personal ideals, etc. as means of controlling behavior.

320 (180). Social Statistics. (5:5:0) A. Canning, Smith
Considers statistical procedures used in sociological research, including analyses of measurements of central tendency, dispersion, symmetry, testing hypotheses, estimation from samples, and scientific prediction.

322 (182). Methods of Research in Sociology. (5:5:0) W. Smith
Canning, Larsen
Analyzes methods used in investigation of sociological data. Field projects give the student actual experience in research.

325 (188). Seminar. (2:2:0) W. Staff
Develops a conceptual scheme for studying some of the major sociological research projects.

340 (107). Development of Social Reform Movements in the United States. (3:3:0) W. Symons, Payne
Discusses social aspects of various movements from Adam Smith to John Dewey with special emphasis upon social reform movements in the United States.

344 (134). Social Legislation. (3:3:0) Not given this year. Ballif
Study of basic problems and techniques of social legislation. Notes and analyzes various systems now in operation.

348 (138). Cooperative Movement. (2:2:0) Not given this year. Ballif, Larsen
Organizational and functional principles of the movement are analyzed. Includes consideration of the types of cooperatives and basic problems they encounter.

351 (162). Sociology of Recreation. (3:3:0) W. Ballif, Payne
Treats relations of recreational interests to growth, group behavior and social maladjustments. Emphasizes basic theories of recreative activities.

360 (144). Introduction to Social Work. (3:3:0) A. Ballif, Symons, Slater
Introductory survey of the various fields and methods of social work. Considers implications of social work for the related professions.

362 (146). Introduction to Social Case Work. (2:2:0) W. Slater, Symons
Analyzes principles and practices of case work with the maladjusted and dependent.

363 (147). **Introduction to Field Experience in Social Work.** (1:1:0) W. Symons, Slater
Designed to acquaint the student with agencies actually engaged in social work. To be taken concurrently with Sociology 362.

380 (124). **Introductory Criminology.** (3:3:0) A. Empey, Smith, Symons
Analyzes nature and extent of criminal behavior. Emphasizes current theory and research as they relate to the causes of crime.

383 (125). **Juvenile Delinquency.** (3:3:0) W. Prerequisite: Sociology 111. Symons, Smith
Analyzes lawlessness of children and adolescents. Stresses causations, treatment, prevention and outlook.

386 (127). **Organized Crime.** (3:3:0) S. Prerequisite: Sociology 111, 380. Symons, Empey
Study of historical backgrounds for development of organized crime in the United States. Considers proposals for prevention.

389 (112). **Social Aspects of Mental Health.** (3:3:0) S. Canning, Symons
Study of personality disorders and emotional maladjustments which originate in group life. Discusses social causation, treatment and prevention of mental ills.

392 (128). **Race Relations.** (3:3:0) W. (G-SS) Symons, Ballif, Larsen
Studies basic processes in present-day inter-relations of racial groups. Analyzes prejudice—its causes and programs for its reduction.

400 (170). **Achieving Success in Marriage.** (3:3:0) A.W.S. (G-SS) Staff
Considers mate selection, management of family resources, parent-child relationships, and marital adjustment in a dynamic society.

402 (172). **The Family.** (3:3:0) W. Bradford, Symons, Empey
Presents historical development of the family as an institution. Emphasizes the family in several different societies and problems created by various family systems.

420 (152). **Effects Upon Society and Individuals of Population Processes.** (3:3:0) A. Bradford, Smith
Presents effects upon the individual and society of such population processes as migration, birth and death. Analyzes a population policy for the United States.

423 (156). **The Sociology of Rural Life.** (3:3:0) A. Payne, Symons, Bradford
Gives attention to the particular factors and problems of rural life.

426 (160). **The Sociology of Urban Life.** (5:5:0) W. Smith, Payne
Gives attention to particular factors and problems of urban life. Emphasizes human ecology.

440 (150). **Culture, Society and the Development of Personality.** (3:3:0) A. Staff
Study of role of culture and society in formation and functioning of personality. Compares various peoples and cultures.

443 (140). **Sociology of Adjustment in Modern America.** (3:3:0) S. (G-SS) Dyer, Bradford, Empey
Practical course designed to assist the individual in understanding some of the basic features of present-day America.

446 (141). **Human Relations in Industry.** (3:3:0) A. Larsen
Studies role that social forces play in determining industrial organization. Emphasizes labor-management relations and problems of applied industrial sociology.

449 (136). Community Organization, Action and Planning. (3:3:0) A. Ballif, Dyer, Larsen
Considers basic fundamentals of community life. Analyzes techniques and methods for organizing community resources for efficient achievement of community objectives.

460 (108). Cultural Anthropology. (3:3:0) W. Canning, Dyer
Considers meaning and content of culture in various societies throughout the world.

Advanced Undergraduate or Graduate Courses

504 (104). Contemporary Sociological Theory. (3:3:0) W. Bradford, Canning, Smith
Emphasizes major developments in contemporary sociology. Analyzes contributions of leading present-day sociologists.

508 (108). Social Ethics. (3:3:0) A. Lloyd
Identifies and analyzes fundamental American values and value systems.

512 (176). Educational Sociology. (3:3:0) A. Smith
Analyzes principles of sociology of education and their implication for theory and practice of school administration, curricula, and methods of instruction.

516 (178). Sociology of Religion. (3:3:0) W. Ballif, Smith, Empey
Analyzes influences of social factors in development of various religious systems.

520 (184). Advanced Research Methods. (2:2:0) S. Staff
Advanced training in theory and practice of research. Especially designed to assist those writing their master's thesis in sociology.

524 (184). Advanced Statistics. (3:3:0) W. Canning, Smith
Advanced course designed for those who intend to do research or continue in graduate work.

528 (189). Seminar. (3:3:0) A.W.S. Staff
Analysis, formation and integration of basic sociological concepts.

532, 536 (194, 195). Directed Research. (1-3:0:2-6 ea.) A.W.S. Staff
Direction in methodology of research in the field of sociology and in the adequate presentation of material.

540 (250). Sociology of Personality Development. (3:3:0) A. Staff
Discusses normal and abnormal aspects of personality as affected by social organization.

544 (292). Public Opinion. (3:3:0) S. Larsen, Ballif, Payne
Discusses role of public opinion in various areas of social life.

Graduate Courses

605 (205). Advanced Sociological Thought. (3:3:0) W. Canning, Smith, Symons

606 (206). Advanced Contemporary Sociology. (3:3:0) S. Bradford, Smith, Dyer

620 (240). Research in Population and Demography. (3:3:0) S. Smith, Bradford

660 (260). Social Change. (3:3:0) W. Symons, Larsen

680 (224). Research Methods in Criminology. (3:3:0) S. Symons, Smith, Empey

683 (226). Penology. (3:3:0) W. Smith, Empey

686 (230). Problems in Race Relations. (3:3:0) A. Symons, Ballif, Larsen

699 (300). Thesis for Master's Degree. Staff

796, 798 (296, 298). Special Research Problem. (1-3:0:2-6 ea.) A.W.S. Staff

Soils

(See courses in Agronomy.)

Spanish

(See courses in Languages.)

Speech and Dramatic Arts

Professors: H. I. Hansen (chairman, 123 SpC), de Jong, Mitchell, Morley.
Associate Professors: Bateman, Gledhill, Mecham, Woodbury.
Assistant Professors: Clinger, K. B. Pardoe.
Instructors: Bowers, Jex, McKinlay, O. Rich, Richardson, Struthers.

Requirements for Major

It is recommended that students majoring in speech and dramatic arts qualify for the foreign language requirement. Students may elect to specialize in one of five divisions of speech. Required courses may be waived by the department committee on petition of the student. **Senior Seminar 391 is required of all majors.**

Theatre and Dramatic Art

	Hours
Basic courses: 101, 121, 241, 391, 460, 471	22
Additional courses for specialization: 122, 123, 126, 316, 317, 319, 320, 321, 325, 422 or 423	26
Total Hours	48

Additional courses recommended: Speech 260, 315, 318; English 282, 345, 356, 382, 543; Physics 102.

Sequence of Courses

	Autumn	Winter	Spring	Any	Other Req.
First Year	101 (5)	121 (3)	122 (3)		
Second Year		123 (5) 422 (3)	 423 (3)	126 (2)	
Third Year	219 (2)	320 (2)	321 (2) 325 (3)	460 (3) 471 (5)	
Fourth Year	316 (3)	317 (3)	391 (3)		

Public Speaking

	Hours
Basic courses: 101, 121, 241, 391, 460, 471	22
Additional requirements for specialization: 103, 111, 122, 401, 402, 505, 506, plus 5-6 hours of electives from 255, 305, 325, 547	26
Total Hours	48

Additional courses recommended: Speech 260; courses in American history and government.

Sequence of Courses

	Autumn	Winter	Spring	Any	Other Req.
First Year	101 (5)	121 (3)	241 (3)		
Second Year	111 (3)	122 (3)	103 (2)		
Thirl Year	401 (3)	402 (3)		460 (3)	
Fourth Year		505 (3)	506 (3) 391 (3)		

Speech and Hearing Rehabilitation

	Hours
Basic courses: 101, 121, 241, 391, 460, 471	22
Additional requirements for specialization: 360, 480, 481 or 482,	

483, 484, 485, 473 or 474, 475, 476, 546; Psychology 340 31

Total Hours 53

Additional courses recommended: Psychology 111, 320, 440, 445, 550, 585; E.R.S. 305.

Those students who plan to qualify for a Utah certificate in special education with an emphasis on speech and hearing correction must qualify for an elementary or secondary teaching certificate in addition to the outlined major in speech and hearing rehabilitation. Those seeking speech and hearing certification and also the general elementary credential may substitute course work as follows: Speech 450 (6 hrs.) for one quarter of practice teaching, Education: Instruction 448. Also, those students who will have had Speech 480, 481, 482, Clinical Methods, may take Education: Instruction 534 (5 hrs.), Overview of Elementary Instruction, in lieu of Elementary Instruction 345, 346 or 446, Curriculum and Methods.

Sequence of Courses

	Autumn	Winter	Spring	Other Req.
First Year	101 (5)	121 (3)		Psych. 111 (5)
Second Year	241 (3)	Physics 102 (3)	471 (5)	
		Zoology 164 (5)	470 (4)	
Third Year	471 (5)	476 (3)	474 (2)	Psych. (3)
	475 (3)	473 (3)	481 (2)	
		480 (2)		
		460 (3)		
Fourth Year	483 (2)	483		
	484 or		391 (3)	
	485 (2)	484 or	483, 484, or	
		485 (2)	485 (2)	
	E.R.S. 304(3)	520 (3)	340 (3)	

Radio and Television

Hours

Basic courses: 101, 121, 241, 391, 460, 471 22

Additional courses for specialization (any 26 quarter hours from the following): 123, 251, 252, 253, 254, 255, 260, 319, 320, 321, 340, 346, 347, 348, 349, 350, 351, 352, 353, 354; Journalism 351, 356 26

Total Hours 48

Sequence of Courses

	Autumn	Winter	Spring	Any	Other Req.
First Year	101 (5)	123 (3)	121 (3)		(15)
Second Year	251 (3)	252, 253	255 (3)		(10)
		254 (3)			
Third Year	346 (1)	347 (1)	348 (1)	460 (3)	
	349 (5)	350 (5)	351 (5)	471 (5)	
Fourth Year	Jour. 351 (3)	353 (2)	354 (2)		
	352 (2)	340 (3)	Jour. 356 (3)		
			391 (3)		

Students majoring in this area should select a closely related minor. The following minors are suggested: sociology, psychology, political science, journalism, music, commerce, English, education, and home economics.

General Speech for Teachers in Secondary Schools

Hours

Basic courses: 101, 121, 241, 391, 460, 471 22

Additional requirements for specialization: 102, 111, 122, 123, 126,

319, 320, 321, 377, 401, 478, 479	23
Total Hours	45

Additional courses recommended: Speech 260, 305, 317.

Sequence of Courses

	Autumn	Winter	Spring	Any	Other Req.
First Year	101 (5)		121 (3)		Psych. 111 (5)
Second Year	111 (3)	123 (5)			Lang. (15)
	122 (3)		126 (2)		Lang. (10)
Third Year	241 (3)	320 (2)	321 (2)	460 (3)	Physics 102 (3)
	401 (3)			471 (5)	
	319 (2)	377 (4)			
Fourth Year		478 (4)	391 (3)		
		479 (6)			

For those students who plan to qualify for a Secondary Teaching Certificate, Speech 377, 478 and 479 will be required.

Requirements for Minor

The requirements for the general minor in speech are made up of the basic courses required for all speech majors, e.g., Speech 101, 121, 319-320-321 (6 hrs.) 460 and 471, plus 3 hours of electives.

The requirements for a minor in speech and hearing rehabilitation are Speech 101, 121, 366, 471, 473 or 474, 475 or 476, 480 or 481, 483, 484.

Lower Division Courses

101 (1). Fundamentals of Speech. (5:5:0) A.W.S. Staff

Beginning course to aid self-improvement in speech as a mode of communication. Provides opportunity to practice for greater effectiveness in personal use of the various speech skills. Recommended for speech majors, prospective teachers, and students who desire improvement in their everyday speech activities.

102 (2). Introduction to Public Speaking. (3:3:0) A.W.S. Staff

Practical and general service course designed for students who desire to improve their speech efficiency, poise, and self-confidence in public speaking situations. Provides opportunity to develop and improve skill in organization and delivery of all types of speeches encountered in business, professional, social, and religious activities.

103 (3). Group Discussion. (2:2:0) A.W.S. Staff

Concerned with a basic democratic procedure—cooperative thinking. Addressed to those who serve on committees or boards, attend staff meetings, talk over common problems in church, school, or office—to all who are preparing to participate in or lead informal discussion in small groups. Promotes more effective group thinking through discussion.

105p (5p). Speech Clinic. (1:1:0) A.W.S. Mecham, Morley, Jex

Corrective treatment of stuttering, lisping, and other forms of speech disorders.

106p (6p). Speech Coaching. (1:1:0) A.W.S. Staff

Personal attention to individual needs beyond classroom practice.

107, 108, 109 (7, 8, 9). Speech for Foreign Students. (2:2:3 ea.) A.W.S. Jex

111 (11). Introduction to Argument and Debate. (3:3:0) A.W.S. Richardson

Principles of argumentation and practice in debate.

112, 113, 114 (12a, b, c). Debate Techniques. (1:1:1 ea.) A.W.S. Bateman, Richardson

Open to members of the forensic squad who obtain approval of the Speech Department and the Debate Council. To obtain credit in debating, students must register for this course, with at least two hours of instruction each week.

121 (24). Voice and Diction. (3:3:2) A.W.S. (G-HA) Staff

122 (22). Fundamentals of Interpretation. (3:3:2) A.W.S. (†G-HA) Prerequisite: Speech 121. Staff

123 (23). Fundamentals of Acting. (5:3:2) A.W.S. (G-HA) Hansen, Woodbury
Studied character enactment.

126 (26). Makeup. (2:2:0) A.W.S. Bowers, Tanner

241 (41). Introduction to Radio and Television Broadcasting. (3:3:2) A.W.S. Rich, McKinlay

Discussion of scope, influence, current practice, problems, and social implications of the American system of radio and television broadcasting; microphone practice and experience.

251 (51). Radio and Television Studio and Control Room Techniques. (3:3:0) A. Staff

Use of radio and TV facilities, sound effects, records, TV lighting and TV staging.

255 (53). Beginning Radio and Television Production. (3:3:0) W.S. McKinlay, Rich

Practice in performance, production, and direction of radio and television dramatic and commercial programs.

260 (60). Practical Phonetics. (3:3:0) A.W.S. de Jong
Designed to give better understanding of diction in English and foreign languages.

Upper Division Courses

301, 302, 303 (102a, b, c). Debate Techniques. (1:1:1 ea.) A.W.S. Richardson

Open to members of the forensics squad who obtain approval of the Speech Department and the Debate Council. To obtain credit in debating, students must register for this course, with at least two hours of instruction each week.

304p (104p). Public Speaking. (1:1:0) A.W.S. Staff
Individual instruction. Fee.

305 (107). Parliamentary Procedures. (2:2:0) S. Bateman
Rules governing organizations and legislative bodies.

307 (New). Program Directors. (1:1:0) A.W.S. Richardson

315 (112). Introduction to the Theatre. (3:3:0) A.W.S. Staff
Introduces students to fundamental theories of theatre arts to develop a discriminating appreciation and to provide a basic background for those interested in theatre.

316, 317, 318 (124, 125, 126). Theatre History. (3:3:0 ea.) A.W.S. (G-HA) Woodbury, Hansen

319, 320, 321 (161a, b, c). Stage Craft. (1-3:1-3:1-9 ea.) A.W.S. Struthers
College and workshop productions in laboratories. Students may register for one to three hours each quarter with a maximum of nine hours.

323 (163). Technique of Playwriting. (3:3:0) A. Hansen

324 (165). Historic Costume. (3:3:0) W. Bowers

325 (172). Advanced Interpretation. (3:3:0) S. (G-HA) Woodbury, Mitchell

346, 347, 348 (151, 152, 153). Advanced Radio Workshop. (1:0:1 ea.) A.W.S. Prerequisite: consent of the instructor. Rich

Experience in planning and producing radio programs for off-campus stations.

349 (154). Radio and Television Programs and Audiences. (5:5:0) A. Rich

Analysis and extensive observation of basic program forms used in radio and television; requirements of effective program structure; consideration of audience situation.

350 (155). Radio and Television Law and Program Planning. (5:5:0) W. McKinlay

Discussion of the influence of public attitudes and decisions of regulatory bodies on basic program standards; practice in planning radio and television programs consistent with these standards.

351 (156). Radio and Television Program Writing. (5:5:0) S. Prerequisite: consent of instructor. McKinlay

Practice in writing of various types of low-cost radio and television programs.

352, 353, 354 (157, 158, 159). Television Workshop. (2:2:0 ea.) A.W.S. Prerequisite: consent of instructor. Rich, McKinlay

Practice in production and direction of television programs for release over commercial stations.

391 (162). Senior Seminar. (3:3:0) S. Required of all seniors, Hansen, Staff

401 (100). Advanced Speech Composition. (3:3:0) A. Prerequisite: Speech 101. Staff

Advanced study and practice in styles of speaking.

402 (101). Advanced Argument and Debate. (3:3:0) W. Prerequisite: Speech 111. Staff

Analysis of classic debates and practice in argumentative writing and speaking.

412 (167). Religious Drama. (2:2:0) A.W.S. Hansen

422 (122). Intermediate Acting. (3:3:2) A.W. Prerequisite: Speech 123 or consent of instructor. Hansen

423 (123). Advanced Acting. (3:3:2) S. Prerequisite: consent of instructor. Hansen

427p (127p). Dramatic Technique. (2:2:0) A.W.S. Staff

452, 453, 454 (52a, b, c). Radio and Television Announcing. (1:1:0 ea.) A.W.S. McKinlay

Practice in presentation of all types of radio and television materials.

460 (160). Directing. (3:3:2) A.W.S. Prerequisite: consent of instructor. Staff

For advanced students only.

470 (179). Speech Science. (4:3:2) W. Staff

Study of aspects, physics, physiology, phonetics and experimental phonetics underlying the speech process.

471 (180). Introduction to Speech Correction. (5:3:2) A.S. Prerequisite: Speech 121. Morley

Causes, symptoms, and treatment of various types of abnormal speech.

472 (New). **Normal Development of Oral Language.** (2:2:0) A. Mecham

473 (182). **Introduction to Aural Rehabilitation.** (3:3:0) W. Prerequisite: Speech 471. Jex

474 (183). **Lip Reading.** (3:3:0) S. Prerequisite: Speech 473. Jex
Teaching of lip reading to children and adults.

475 (185). **Stuttering.** (3:3:0) A. Morley
Study of theories of cause and manifestations of stuttering.

476 (186). **Organic Speech Disorders.** (3:3:0) W. Mecham

Advanced Undergraduate or Graduate Courses

504 (201). **Ancient Rhetoric and Oratory.** (3:3:0) A. Bateman

505 (202). **History of British Public Speaking.** (3:3:0) W. Bateman

506 (203). **American Oratory and Public Address.** (3:3:0) S. Staff

507 (New). **High School Forensic Programming.** (1-3:1-1:1-9) S. Bateman

511 (New). **Debate Coaching.** (1-3:1-3:0) A.W.S. Richardson

518 (264). **Advanced Play Production.** (3:3:0) A.W.S. Hansen

519 (290). **Problems of the Producing Director.** (3:3:0) S. Hansen

522 (292). **History of Acting.** (3:3:0) A. Woodbury
Styles and theories.

524, 525, 526 (228). **Stage Design.** (3:1:2 ea.) A.W.S. Staff

527 (240). **Stage Lighting.** (1-3:1-3:0) A.S. Tanner

530, 531 (New). **Creative Dramatics.** (3:3:0 ea.) W. Mitchell

532, 533 (New). **Children's Theatre.** (3:3:0 ea.) S. Mitchell

537, 538, 539 (281a, 281b, 281c). **Graduate Practicum in Correction of Speech and Hearing Problems.** (1-3:1-3:0 ea.) A.W.S. Staff

540 (282a). **Advanced Studies in Stuttering.** (3:3:0) A.W.S. Prerequisite: Speech 475. Morley

541 (282b). **Advanced Studies in Cleft Palate.** (3:3:0) A.W.S. Prerequisite: Speech 476. Morley

542 (282c). **Advanced Studies in Cerebral Palsy.** (3:3:0) A.W.S. Prerequisite: Speech 476. Mecham

543 (282d). **Advanced Studies in Aphasia.** (3:3:0) A.W.S. Prerequisite: Speech 476. Mecham
Only two courses of the above series will be taught in any one quarter.

544 (283). **Advanced Audiology.** (3:3:0) A.W.S. Prerequisite: Speech 473. Jex

545 (284). **Public School Audiometry.** (3:3:0) A.W.S. Prerequisite: Speech 473. Jex

546 (286). **Anatomy of Ear and Vocal Organs.** (3:3:0) Morley

547 (287). **Psychology of Speech.** (3:3:0) S. Prerequisite: Psychology 111. Morley

548 (289). **Methods and Problems of Research in Speech.** (3:3:0) A. Staff

550, 551, 552 (229). **Playwriting.** (3:1:2 ea.) A.W.S. Hansen, Mitchell

570 (234). Projects in Theatre. (2-4:2-4:0) A.W.S. Clinger, Gledhill, Hansen, Woodbury

573 (252). Radio and Television Projects. (2-4:2-4:0) A.W.S. Staff

580, 581 (New). Projects in Speech Pathology. (1-2:1-2:0) W.S. Staff

590 (210). Seminar in Public Speaking. (2-4:2-4:0) A. Staff

591 (250). Seminar in Mass Communications. (2-4:2-4:0) A.W.S. Staff

592 (230). Seminar in Interpretation. (1-4:1-4:0) A. Gledhill, Woodbury

594 (New). Special Studies in Speech Pathology. (1-4:1-4:0) A.W. Staff
May be repeated to a total of 4 hours.

596 (288). Seminar in Psychophysics of Speech. (1-3:1-3:0) A.W.S. Staff

597 (249). Selected Readings in Radio and Television. (2-4:2-4:0) A.W.S. Staff

SPEECH EDUCATION

366 (171). Speech in the Elementary Schools. (3:3:0) W.S. Jex

Objectives and methods of developing good speech habits in children. Recognition and management of minor speech problems.

377 (120). Basic Classroom Procedures. (4:4:3) A.W. Prerequisite: E.R.S. 305. Lectures, demonstrations, observations. Clinger

For course description and fees see Education: Instruction 377.

450 (118). Practice Teaching in Correction of Speech and Hearing Disorders in the Public Schools. (6:0:20) A.W.S. Prerequisites: Education: Instruction 118 and completion of a minimum of 150 hours in clinical practicum in Speech Education 483, 484, 485. Jex

Supervised teaching in public elementary school for a full quarter on a half-day basis. A qualified student clinician registering for this course will be placed in a public school district where there is a practicing public school speech and hearing correctionist. The student teacher will get experience in diagnosis and therapy with children having speech and hearing disorders. Student teachers will participate in weekly seminars and personal conferences with their supervisors. The nature of this course dictates that students limit their load to 15 quarter hours. A special fee of $15 is charged to equalize the cost of travel for student teachers regardless of location of cooperating public schools.

478 (138). Unit Planning and Teaching. (4:3:5) A.W. Prerequisite: Speech Education 377. Clinger

For course description and fees see Education: Instruction 478.

479 (139). Secondary Student Teaching. (7:1:20) A.W.S. Prerequisites: Speech Education 478 and completion of two-thirds of courses required for teaching major and minor or composite major. Clinger

For course description and fees see Education: Instruction 479.

480 (190). Clinical Methods in Correction of Functional Disorders of Speech. (2:2:0) A.S. Prerequisite: Speech 471. Staff

481 (191). Clinical Methods in Correction of Organic Speech Disorders. (2:2:0) W. Prerequisite: Speech 476. Mecham

Diagnosis and treatment methodology.

482 (192). Clinical Methods of Teaching Speech to the Deaf and Hard of Hearing. (2:2:0) S. Prerequisite: Speech 473. Jex

483, 484, 485 (195a, b, c). Clinical Practice in Speech Correction. (2:2:0 ea.) A.W.S. Prerequisites: Speech 480, 481, 482. Staff

Supervised practice in handling of various types of speech and hearing disorders.

Graduate Courses

604 (215). **Regional Dialects.** (3:3:0) S. Prerequisite. Speech 260. Clinger

615, 616, 617 (225, 226, 227). **History of the Theatre.** (3:3:0 ea.) A.W.S. Hansen, Woodbury

619 (232). **Experimental Theatre.** (2-4:2-4:0) W. Hansen

620 (294). **Special Problems in Theatre History.** (1-5:1-5:0) Staff
May be repeated to a total of five hours.

631 (236). **Oral Interpretation of Classic Literature.** (3:3:0) W. Hansen, Clinger, Gledhill, Woodbury

632 (237). **Program Building and Lecture Recital.** (3:3:0) S. Gledhill, Mitchell, Woodbury

634 (235). **Theory of Interpretation.** (3:3:0) W. Gledhill, Woodbury

690 (238). **Seminar in Arena Theatre.** (2-4:2-4:0) A.W.S. Hansen
May be repeated to a total of nine hours.

699 (300). **Thesis for Master's Degree.** Staff

701 (241). **Research Methods in Mass Communications.** (3:3:0) A. Rich, McKinlay, Smith

702 (242). **Mass Communications and Society.** (4:4:0) W. Staff

703 (243). **History of Radio and Television Programming.** (3:3:0) S. Staff

These courses also count in Speech:

Journalism 211. **News Writing.** (3:2:2)
Journalism 341. **Radio-TV News Writing.** (3:2:2)
Journalism 346, 347, 348. **Radio-TV Workshop.** (2:0:6 ea.)
Journalism 351. **Radio and Television Advertising.** (5:5:0)
Journalism 356. **Radio-TV Commercial Continuity Writing.** (5:5:0)

Television

(See courses in Journalism and in Speech and Dramatic Arts.)

Textiles

(See courses in Clothing and Textiles.)

Theology and Religious Philosophy

(See courses in Religion.)

Zoology and Entomology

Professors: V. M. Tanner (chairman 264 B), Hayward.
Associate Professors: D E. Beck, H. J. Nicholes, W. W. Tanner.
Assistant Professors: A. L. Allen, D. M. Allred, S. L. Wood.
Instructor: Simmons.

Zoology is the basic animal science. The courses offered in this department meet the needs of the following groups of students: (1) those seeking to satisfy the general education requirement in biological science; (2) those planning to specialize in entomology, zoological natural history, or physiology and experimental biology; (3) those preparing to teach biology; and (4) those planning to enter an applied zoological science, such as medicine, dentistry, veterinary medicine, and agriculture.

Requirements for a Major

A candidate for the bachelor's degree in zoology should fulfill (1) the University general education requirements for graduation, (2) the general departmental requirements for graduation, and (3) the requirements of one of the optional sequences in zoology.

The general departmental requirements for all majors are Zoology 105, 176, 212, 385, 496, and 497 — 17 hours.

Optional Sequences

Entomology (including agriculture): Zoology 230, 332, 365, 530, 550 and 328 or 334—27 or 28 hours. Botany 101, 112, 123, and 470—19 hours. For those intending to do graduate work in entomology, the following additional courses are recommended: Zoology 263, 321, 328, 334, 370, 371, 376, 532, 538, Mathematics 111 or 112; Chemistry 111, 112, 113, or 105, 106, 107; 351, 352; Physics 111, 112—10 hours; Bacteriology 121 or 301; Geology 111, 112; foreign languages (German, French, or Russian).

Natural History (including veterinary medicine): 230, 263, 365, and one each of the following: 332 or 417, 343 or 345, 346 or 347, 365 or 373—30 or 31 hours.

For students intending to do graduate work in natural history, the following additional courses are recommended: 357, 370, 371, and those courses above not selected by option; Chemistry 111, 112, 113, 351, 352; Physics 111, 112, 113; Bacteriology 121 or 301; Botany 101, 112, 123; Geology 111, 112; and one foreign language (French, Spanish or German).

Physiology and Experimental Zoology (including pre-medical and pre-dental): Zoology 263, 356, 365, 370, 373, 376 or 417—28 hours; Bacteriology 301—5 hours; Chemistry 111, 112, 113, 221, 351, 352, 353—35 hours; Mathematics 111, 112—10 hours; Physics 111, 112, 113—15 hours. Those intending to do graduate work in physiology should add Zoology 371, 561, 562, 563; Mathematics 231, 232, 233, 234; and Chemistry 461, 462, 463, 581, 582, and 583.

Teaching: Zoology 164 or 263, 230, 332, 343 or 345, 346 or 347, 550, 365—31 hours; Botany 101, 112, 123, 550, and 560—25 hours; Bacteriology 121 or 301; geology, 5 hours; mathematics, 5-10 hours; chemistry, 10-15 hours; physics 8-12 hours.

By counseling early with the department chairman and staff the prospective major will be able to determine which supporting courses should be elected from this and other departments. Virtually all prospective majors should take the following courses during the freshman year:

	Hours
English (composition)	6 or 9
Religion	6
Physical and health education	4
Chemistry	10 to 15
Mathematics	5 or 10
General Zoology 105	5
Electives	0 to 10
Total Hours	46 or 49

Suggestions for a Minor

Zoology 105, 176, 212, 230, 164 or 263 or 365, 385, 496, 497—27 hours
This department is divided into the following areas:

Entomology: 328, 332, 334, 432, 530, 532, 533, 537, 631, 632, 637, 639
General: 105, 107. 109, 164, 176. 212, 230, 261, 263, 496, 497, 690, 691, 692, 693, 694, 695, 696, 699
Natural History: 321, 343, 345, 346, 347, 351, 357, 385, 417,512, 550, 551, 591, 592, 593, 625, 643, 645, 655
Physiology and Experimental Zoology; 365, 370, 371, 373, 376, 561, 562, 563, 566, 573, 576, 578, 673

Lower Division Courses

105 (11). General Zoology. (5:3:4) A.W.S. (G-BS) Staff

109 (11b). General Zoology for Nurses. (5:3:4) S. (G-BS) Staff
For nursing students only.

164 (45). Vertebrate Anatomy and Physiology. (5:3:4) A.W.S. (†G-BS) Prerequisite: Zoology 105, Botany 101 or Bacteriology 121. Nicholes

176 (18). Survey Course in Heredity. (3:3:0) A.W.S. (†G-BS) Prerequisite: Zoology 105 or general botany. W. W. Tanner

212 (12). Invertebrate Zoology. (5:2:6) A.W.S. Prerequisite: Zoology 105. Beck

230 (30). Introductory Entomology. (5:3:4) A.S. (G-BS) V. M. Tanner

261 (51). Human Physiology for Nurses. (4:3:2) A. Prerequisite: Zoology 109. Nicholes

263 (13). Comparative Vertebrate Anatomy. (5:3:4) A.W.S. Prerequisite: Zoology 105. Hayward

Upper Division Courses

321 (New). Arachnology. (3:1:4) A. Prerequisite: Zoology 105. Allred

328 (133). Medical Entomology. (4:2:4) S. Prerequisite: Zoology 230. Allred, Beck

332 (132). Insect Classification. (5:2:6) S. Prerequisite: Zoology 230. V. M Tanner, Wood

334 (134). Economic Entomology. (3:2:2) A. Prerequisite: Zoology 230. Wood

343 (159). Fishes (Ichthyology). (3:1:4) W. Prerequisite: Zoology 105. V. M. Tanner

345 (160). Reptiles (Herpetology). (3:1:4) S. Prerequisite: Zoology 105. Saturday field trips. W. W. Tanner

346 (158). Birds (Ornithology). (3:1:4) S. Prerequisite: Zoology 105. Saturday field trips. Hayward

347 (157). Mammals (Mammalogy). (3:1:4) A. Prerequisite: Zoology 105. Saturday field trips. Hayward

351 (128). Aquatic Zoology. (3:2:2) S. Prerequisite: Zoology 105. V. M. Tanner

357 (197). Natural and Human Resources. (3:3:0) W. (G-BS) V. M. Tanner

365 (165). General Physiology. (5:3:4) W. Prerequisites: Zoology 105 and general college chemistry. Nicholes

General and comparative physiology of cells, tissues, and functional systems of animals.

370 (170). Vertebrate Histology. (3:1:4) S. Prerequisite: Zoology 263. Hayward

371 (171). Histological Technique. (2:0:4) W.S. Prerequisite: Zoology 105; 370 recommended. Hayward

373 (173). Vertebrate Embryology. (5:2:6) W. Prerequisite: Zoology 263. Allen

376 (129). Genetics. (5:3:4) A. Prerequisite: Zoology 176 or equivalent. Allen

385 (175). History of Biology. (2:2:0) W. V. M. Tanner

417 (174). Parasitology. (4:2:4) W. Prerequisite: Zoology 105. W. W. Tanner

432 (194). Principles of Insect Nomenclature. (1:1:0) W. Prerequisite: Zoology 230. V. M. Tanner

496, 497 (182, 183). Senior Year Seminar. (1:1:0 ea.) A.W. Staff

Advanced Undergraduate or Graduate Courses

512 (186). Natural History of Local Invertebrate Fauna, Exclusive of Insects. (3:1:4) S. Prerequisites: Zoology 212, 230. Beck

524 (New). Acarology. (3:1:4) W. Prerequisite: Zoology 230 or 321. Allred

530 (204). Insect Morphology. (3:1:4) W. Prerequisite: Zoology 230. Wood

532 (206). Insect Literature and Nomenclature. (3:3:0) S. Wood

533 (203). Field Entomology. (3:1:4) S. Prerequisite: consent of instructor. V. M. Tanner, Wood

537 (207). Insect Embryology. (3:2:2) A. V. M. Tanner, Wood

538 (New). Immature Insects. (3:2:2) A.S. V. M. Tanner, Wood

550 (146). Principles of Ecology and Bio-geography (5:3:4) S. (†G-BS) Prerequisites: Zoology 105, Botany 560. Saturday field trips. Hayward

551 (241). Biotic Communities of North America. (3:3:0) W. Hayward

561 (267). General Physiology. Cells. (3:3:0) A. Prerequisites: Zoology 365, 370; general college physics; organic chemistry. Nicholes

562 (267). General Physiology. Muscle and Nerve. (3:3:0) W. Prerequisite: Zoology 561. Nicholes

563 (267). General Physiology. Secretion and Absorption. (3:3:0) S. Prerequisite: Zoology 562. Nicholes

566 (166). Human Physiology. (5:3:4) S. Prerequisites: Zoology 365, 370, 373. Nicholes

573 (178). Experimental Embryology. (4:2:4) S. Prerequisite: Zoology 373. Allen

576 (239). **Advanced Genetics.** (3:3:0) W. Allen

578 (237). **Radiation Biology.** (3:3:0) S. Allen

591, 592, 593 (191 192, 193). **Field Zoology.** (3:0:6 ea.) A.W.S. Open only to students prepared to carry advanced zoological work. Staff

Graduate Courses

625 (255). **Distributional Study of Parasitic Arthropods.** (3:0:6) (Arr.) Prerequisites: Zoology 105, 212, 230, 347, 356. Allred, Beck

628 (New). **Advanced Medical Entomology.** (3:1:4) A.S. Allred, Beck

631 (201). **Insect Physiology.** (3:2:2) A. V. M. Tanner

632 (202). **Systematic Entomology.** (3:2:2) W. V. M. Tanner

637 (205). **Insect Genitalia.** (3:1:4) W. V. M. Tanner

639 (208). **History of Entomology.** (2:2:0) W. V. M. Tanner

643 (210). **Advanced Ichthyology.** (3:1:4) (Arr.) V. M. Tanner

645 (213). **Advanced Herpetology.** (3:1:4) S. W. W. Tanner

649 (New). **Comparative Anatomy and Natural History of Vertebrates.** (3:2:2) (Arr.) W. W. Tanner

655 (219). **Geographical Distribution of Cold-blooded Vertebrates.** (2:1:2) (Arr.) V. M. Tanner

673 (238). **Advanced Embryology.** (3:3:0) A. Allen

690, 691, 692 (New). **Research.** (2:0:4 ea.) A.W.S. Staff

693, 694, 695 (New). **Research.** (2:0:4 ea.) A.W.S. Staff

696, 697 (298, 299). **Graduate Seminar.** (1:1:0 ea.) A.W. Staff

699 (300). **Thesis for Master's Degree.** (Arr.) Staff

Adult Education and Extension Services

Ernest L. Wilkinson, President of the University
Harold Glen Clark, Dean
Lynn M. Hilton, Assistant to the Dean
Bliss Crandall, Dean of Admissions and Records
Kiefer B. Sauls, Treasurer

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Nancy Ferrell, Supervisor, Institutes and Short Courses
Elva Christensen, Supervisor, Off-Campus Credit Courses

HISTORY AND PURPOSE

The purpose of the Extension Services is to bring the educational services of the regular University day school to those who are not now receiving them.

It was called the Extension Division when it was established in 1921. At that time its program combined publicity, off-campus programs, lectures, and community services with the more formal classroom offerings and credit courses both by correspondence and lecture.

Some of these earlier functions have been assumed, in part, by special committees or departments in the University. News services, such as motion pictures and audio aids, have been expanded or added to the Extension Services.

Full-time employees have replaced those who formerly did extension work during their off-time hours. The extent of the territory served has increased.

Bulletins of information on evening school courses, home study subjects, lectures, and publications are available upon request.

The Extension Services is made up of the following departments and areas:

Audio-Visual Services
  Film On-Campus Distribution
  Film Off-Campus Distribution
  Graphic Arts
  Recordings

    - Film Production
    - Film Classic
- **Adult Education Services**
    - Evening School
    - Off-Campus Courses
    - Home Study
    - Travel Studies
    - Institutes and Short Courses
    - Leadership Week
    - Publication Services
    - B.Y.U.-Ricks Adult Education Services

Many teachers of the courses scheduled through the Extension Services are chosen from the regular B.Y.U. faculty. In addition, a special part-time off-campus faculty is available and is listed in the Special Instructors or Lecturers section of this catalog.

AUDIO-VISUAL SERVICES

The Brigham Young University Audio-Visual Center is one of the largest and most complete teaching aids centers in the nation. Its purpose is to serve the departments of the University, the various Church organizations, the public schools and industry with the finest materials of instruction that can be obtained. To provide more efficient and effective service the Audio-Visual Center has departmentalized its various functions into the following areas: film rental library, equipment rentals and services, graphic arts, tape recordings, and on-campus film classics program.

The Audio-Visual Center operates a growing film rental library containing over 2,500 motion pictures, over 2,000 35 mm. filmstrips, and a large collection of 2" x 2" color slides. The motion pictures, film strips and slides cover a wide variety of both educational and religious subjects.

A magnetic tape recording library of over 1,300 titles is maintained. This includes such items as L.D.S. General Conference addresses, the Brigham Young University devotional assembly speeches, and other important addresses given on campus. In addition, radio programs of an educational nature are available on a rental basis or tapes may be duplicated for permanent retention.

The Audio-Visual Center offers a consultation service as well as extension courses on a credit and non-credit basis. The services include courses for graduate students and a series of conferences and institutes designed to serve the interests and needs of teachers and administrators.

An audio-visual materials work room has been set up by the College of Education in conjunction with the Audio-Visual Center to provide laboratory facilities and equipment for teachers and students to prepare materials for use in classroom presentations.

The Audio-Visual Center serves as a distribution agency for both the rental and sale of Brigham Young University Motion Picture Production Department releases.

For further information, write or call the Audio-Visual Center. A catalog listing the materials available, conditions of service, and rental rates will be sent upon request.

EVENING SCHOOL

Every week-day evening, classes are conducted on campus in subject matter areas of interest to adults who desire to improve or enrich their lives through part-time education.

Regular college residence credit equivalent to daytime classes is given for all evening school classes. Anyone wishing to do so may take a class on a non-credit basis as an auditor.

Veterans are eligible to enroll under the G.I. Bill if they meet the eligibility requirements of the Veterans' Administration.

There is published quarterly a class schedule of all classes offered on the campus including early morning, late afternoon and evening classes. These class schedules, giving detailed information about all procedures, are available free of charge in the office of the evening school.

Courses listed in the evening school schedule which do not receive eight or more registrations will be cancelled. Students who have registered in cancelled classes will be notified and invited to join classes in which there are a sufficient number of students or will be given a full refund.

Evening school students will be registered upon payment of $5.00 per credit hour plus a $1.00 registration fee. This fee does not include health services or student activity privileges.

Students who register after the officially scheduled registration days are required to pay a late registration fee of $1.00. Registration is not complete until all fees are paid. (Veterans are required to pay the late fee personally.)

One dollar is charged for each change slip presented after the first week of the quarter, unless the action is caused by the evening school.

Each student registered through the Extension Services who discontinues attendance at class MUST use the proper procedure to withdraw by coming to the Extension Center. Otherwise, the student will be given an "Incomplete" mark for the course. The mark will be changed to "Failure" if not removed by the next quarter in residence or in one year, whichever is the sooner.

A pro-rated refund of tuition fees will be made to those who withdraw properly from evening classes during the first four weeks of the quarter. There is no refund for withdrawals occurring after the fourth week of the quarter.

Time and place of evening school registration are listed in the general school calendar in the front of this catalog.

OFF-CAMPUS COURSES

Many adult groups off-campus make requests for regular credit or non-credit courses to be offered in their locality. A request of this type is filled by scheduling a university teacher to travel to the selected place and conduct the course. Credit hours give Brigham Young University residence credit and may be used to renew a teaching certificate, to apply toward a degree, or to broaden one's intellectual and spiritual horizons. The minimum number of students required to a class is determined by the distance of the class from the campus.

Brigham Young University credit is available to students in off-campus courses sponsored by the University of Utah or Utah State Agricultural College where the course has the prior approval of the Brigham Young University Extension Services chairman and dean involved. Conversely, courses sponsored by the Brigham Young University Extension Services will register University of Utah and Utah State Agricultural College students where these other institution approve.

Requests for such courses should be directed to Off-Campus Courses, Extension Services, Brigham Young University. Ordinarily such classes meet one evening a week for eleven weeks. A wide choice of courses is available. Courses listed in the body of this catalog, subject to the approval of the dean and department chairman concerned, may be scheduled off campus. The usual tuition is $6.00 per credit hour. If the class is far distant from campus, students may vote to increase their own tuition in order to have a lower minimum number of students.

Following are classes that have been offered through the off-campus credit program: Economics 593, Seminar; Education: Instruction 226, Art for Elementary Teachers; 605, Audio Visual Materials and Procedures; 614, Analysis of In-Service Problems; 624, Arts and Crafts for Elementary Teachers; 635, Social Studies in the Elementary Schools; 660, Education of the Exceptional Child; 693, Independent Readings; Educational Research and Services 510, Tests and Measures for the Classroom Teacher; 630, The Teaching of Remedial Reading; 650, Guidance Workshop; English 318, Advanced Imaginative Writing; 561, Early American Literature; Geography 310, Geography of North America; Geology 503, Geology of Utah; Health 501, Health Education Workshop; History 170, American Heritage; Physical Education 310, Physical Education for Teachers of Intermediate Grades; Physics 301, History of Physics; Political Science 320, Contemporary Problems; Scripture 511, Israel's Prophets; Speech 680, Seminar in Study of Speech Handicapped Children.

HOME STUDY

The Extension Services offers correspondence work, among other services, to aid in widening the educational horizons of the many people who cannot take college work in residence. It is the desire of the Extension Services to assist anyone anywhere who wishes to continue his education. The essential characteristic of home study is that the relationship of instructor and student is always individual. The only requirement for registration in home study is the assurance of those directing the work that the student is prepared to pursue the course with profit.

Supervised individual instruction from a highly trained instructor has a definite advantage to the correspondence student, but perhaps the greatest advantage comes through the serious application and independent thinking the student must contribute in order to complete his course. His success in the work depends largely upon initiative and eagerness for knowledge and upon the quality of his work.

1. Credit. Correspondence courses are not a short cut. With few exceptions each course carries credit equivalent to the corresponding course given in residence.

Not more than 35 hours of the total 186 required for graduation may be correspondence credit.

No graduate credit can be earned in correspondence courses.

Credits are transferable to other standard institutions upon the same basis as standard credits are received at the Brigham Young University.

2. Registration. Students may register for home study courses at any time during the year. The home study catalog, containing detailed information and application blanks, may be obtained free of charge by writing to Home Study, Extension Services, Brigham Young University, Provo, Utah.

A student may not take correspondence work while in residence without the consent of his dean.

A course may be completed at the rate of not more than three assignments per week. The standard length of courses is five lessons per quarter hour.

The State Department of Public Instruction, State Capitol, Salt Lake City, Utah, or the Department of Public Instruction in the state in which the student resides should be consulted about preparing for teacher's certification.

The registrar's office, Brigham Young University, Provo, Utah, will give the necessary information on entrance and graduation requirements and transfers of credits.

3. Examinations. Examinations are required in all correspondence courses unless otherwise stipulated. Examinations may be taken in the Home Study

Office or elsewhere under the supervision of a responsible school official (principal or superintendent). Examinations will not be given until all lessons are completed.

4. Fees: Tuition Fees. The enrollment fee is $5.00 per quarter hour.

High School Fees. The enrollment for a high school course is $15 for one unit of credit or $8.50 for one-half unit credit.

5. U.S.A.F.I. Courses. The Extension Services is cooperating with the Armed Forces Institute at Madison, Wisconsin, to provide Brigham Young University home study courses at a reduced cost to men and women who are on active service in the Army, Navy, Air Force, Marine Corps or Coast Guard. Members of the armed forces who wish to enroll for such courses should contact the education officer or write directly to Home Study, Brigham Young University, Provo, Utah, for specific instructions and fees for approved courses.

6. Veterans. The Brigham Young University is approved by the Veterans' Administration to offer correspondence courses under Public Law 550.

All veterans should first contact their local Veterans' Administration regional office and find out whether or not they are still eligible to continue their schooling under the G.I. benefits, and if so what procedures they must follow to do so.

7. Purchase of Textbooks. Textbooks may be obtained through application to the Home Study Department at the time of registration. Required texts should be ordered at this time in order to avoid delay in beginning the assignments.

8. Home Study (Correspondence) Courses:

Accounting

101x, 102x (1x, 2x). Elementary Accounting. (5-5)	Crandall
230x (35x). Mathematics of Business. (3)	Wall
350x, 351x (150x, 151x). Intermediate Accounting. (5-5)	Johnson
450x, (188x). Federal and State Taxes. (3)	Johnson

Agronomy

141x (41x). Soils. (3)	Farnsworth
260x (20x). Cereal Crops. (3)	Allred
262x (22x). Forage Crops. (3)	Allred
305x (195x). Soil Fertility. (3)	Hallam

Animal Husbandry

102x, (2x). History of Breeds of Livestock. (5)	Richards
161x (21x). Elements of Dairying. (5)	Richards
170x (90x). General Poultry. (3)	Morris
207x (7x). Feeds and Feeding. (5)	Shumway
325x (160x). Meats and Meat Preparation. (3)	Staff
335x (154x). Beef Production. (4)	Richards
345x (156x). Swine Production. (3)	Shumway

Art

110x (12x). Color and Design. (2)	Wilson
111x (11x). Basic Design. (2)	Wilson
121x (23x). Basic Drawing. (2)	Wilson
122x (22x). Figure Drawing. (2)	Gunn
139x (39x). Pen Lettering. (2)	Gunn
140x (40x). Brush Lettering. (2)	Gunn

259x (59x). Ceramics. (2)	Wilson
321x (121x). Interpretative Drawing. (2)	Wilson
368x (168x). Art for Elementary Teachers. (3)	Wilson
406x (104x). Art History and Appreciation. (3)	Wilson

Bacteriology

121x (1x). General Bacteriology. (3)	Beck
311x (160x). Sanitation and Public Health. (3)	Larson

Botany

123x (3x). Plant Classification. (5)	Harrison
145x (18x). Principles of Genetics. (3)	Stutz
451x (166x). Conservation of Natural Resources. (3)	Christensen

Business Education and Office Management

111x (11x). Gregg Shorthand. (4)	Stansfield
220x (31x). Business English. (3)	Stansfield
320x (110x). Business Report Writing. (3)	Stansfield
578x (178x). Fundamentals of Business Education. (3)	Croft

Chemistry

100x (1x). Chemistry. (3)	Swenson

Clothing and Textiles

370x (170x). Economics of Clothing and Household Textiles. (2)	Potter

Drawing

113x (43x). Elementary Architectural Drawing. (3)	Snell
244x (44x). Architectural Drawing. (3)	Snell
245x (45x). Architectural Drawing. (3)	Snell
248x (47x). Instrumental Perspective. (2)	Snell

Economics

101x (1x). Introduction to Economics. (5)	Staff
247x (74x). Economic and Financial History of the United States. (5)	Staff

Economics and Management of The Home

330x (130x). Home Management. (3)	Bastian
470x (170x). Homemaking Apartment. (4)	Bastian

Education

226x (106x). Elementary Instruction: Art for Elementary Teachers. (3)	Wilson
340x (110x). Elementary Instruction: Children's Literature. (4)	Hammond
361x (158x). Elementary Instruction: Health Education for Elementary Teachers. (3)	Geddes
362x (159x). Secondary Instruction: Health Education for Secondary Teachers. (3)	Hart
305x (175x). General Instruction: Audio-Visual Education. (3)	Tyndall
325x (171x). General Instruction: Materials and Methods of Safety Education. (2)	Hart
310x (100x). Educational Administration: The State, The School, and The Teacher. (3)	Barnett

305xa (101xa). Educational Psychology: Development and Learning. (3)	Harris
305xb (101xb). Educational Psychology: Learning. (3)	Downing
415x (100x). Philosophy of Education: Philosophy of Education. (3)	Clark

Engineering

301x, 302x, 303x (101x, 102x, 103x). Engineering Mechanics. (5-5-5)	Fuhriman

English

111x, 112x, 113x (1x, 2x, 3x). Composition and Literature. (3-3-3)	West
217x (17x). Business English. (3)	Stansfield
218x (18x). Imaginative Writing. (3)	Cheney, Larson
221x (21x). English Grammar. (4)	West
225x (25x). Vocabulary Building. (4)	Young
261x, 262x, 263x (61x, 62x, 63x). Masterpieces of American Literature. (2-2-2)	Thomas
271x, 272x, 273 (71x, 72x 73x). Masterpieces of English Literature. (2-2-2)	Carroll
318x (118x). Advanced Imaginative Writing. (3)	Cheney
331x (192x). The English Novel to 1832. (4)	B. B. Clark
332x (193x). The English Novel from Dickens to Hardy. (4)	B. B. Clark
333x (194x). The Modern English Novel. (4)	B. B. Clark
350x (150x). The Bible as Literature. (3)	Thomas
585x (185x). Tennyson. (3)	Carroll
586x (186x). Browning. (3)	Carroll

Food and Nutrition

110x (10x). Introductory Foods. (4)	Thomas
115x (5x). Fundamental Nutrition. (3)	Thomas
240x (11x). Menu and Meal Planning. (4)	Thomas

Geography

105x (1x). Elementary Geography. (3)	Bullock
110x (12x). Geography and World Affairs. (5)	Fisher
310x (110x). Geography of North America. (5)	Tuttle
323x (123x). Economic Geography. (5)	Layton
420x (120x). Geography of Latin America. (5)	Layton
430x (130x). Geography of Europe. (5)	Fisher
576x (176x). Political Geography. (3)	Fisher

Geology

105x (1x). General Geology. (3)	Rigby
106x (2x). Physical Geology. (2)	Rigby
107x (3x). Historical Geology. (2)	Rigby
306x (106x). Geomorphology. (5)	Rigby

Health Education and Safety

130x (1x). Personal Hygiene. (2)	Robison
325x (157x). Materials and Methods of Safety Education. (2)	Hart
361x (158x). Health Education for Elementary Teachers. (3)	Geddes
362x (159x). Health Education for Secondary Teachers. (3)	Hart

History

100x (1x). History of Civilization. (5)	Swenson
120x (20x). American History. (5)	Poll
121x (21x). American History. (5)	Poll
312x (112x). Close of the Middle Ages. (3)	Swenson
366x (166x). History of Utah. (3)	Poll
504x (104x). Greek History. (3)	Swenson
507x (107x). Roman History. (3)	Swenson
521x, 522x, 523x (121x, 122x, 123x). History of Modern Europe. (3-3-3)	Poll
531x (131x). History of Russia Since 1900. (3)	Mabey
540x (140x). History of England. (3)	Mabey
541x (141x). History of England. (3)	Mabey
550x, 551x (150x, 151x). History of Latin America. (3-3)	Hunt
553x (153x). History of Mexico. (3-3)	Hunt
565x (155x). History of California. (3)	Fielding
570x (170x). American Colonial History. (3)	Fielding

Horticulture

101x (1x). Principles of Pomology. (3)	Ashton
107x (7x). Floriculture. (3)	Reimschiissel

Human Development and Family Relationships

210x (40x). Child Development. (3)	Story
260x (85x). Foundations for Marriage. (2)	Cannon
261x (15x). Latter-day Saint Family. (2)	Anderson
322x (150x). Experience with Children. (3)	Morrell

Journalism

211x (61x). News Writing. (3)	O. Smith
305x (105x). History of Journalism. (5)	O. Smith
490x (106x). Journalism and Society. (3)	O. Smith
571x (111x). Magazine Article Writing. (3)	Butterworth

Languages

Courses are offered in French, German, Italian, Latin, Portuguese, Russian, and Spanish. If you are interested in taking courses in these languages contact the Home Study Department for complete information.

Library Science

363x (163x). Library Science for Teachers and Administrators. (3)	Knight

Mathematics

101x (1x). Algebra. (5)	Haupt
111x (11x). College Algebra. (5)	Haupt
112x (12x). Plane Trigonometry. (5)	Haupt
231x (13x). Analytic Geometry. (5)	Hales
232x (91x). Differential Calculus. (4)	Haupt
233x (92x). Integral Calculus. (4)	Haupt
234x (93x). Differential and Integral Calculus. (4)	Haupt

Music

484x, 485x, 486x (184x, 185x, 186x). History of Music. (3-3-3)	Wakefield

Physics

101x (1x). Essentials of Physics. (3) Compton
127x (16x). Descriptive Astronomy. (3) Hales
137x (21x). Weather and Climate. (5) Hales
177x (26x). Elementary Photography. (3-4) Hales

Political Science

110x (10x). U. S. Constitution. (5) Hunt
112x (12x). Foreign Governments. (5) Caldwell
584x (176x). Political Geography. (3) Fisher

Psychology

101x (1x). Study Habits. (2) Moffitt
105x (5x). Psychology of Adjustment. (3) Howell
111x (11x). Survey Course. (5) Howell
320x (120x). Psychology of Childhood. (3) Taylor
321x (122x). Psychology of Adolescence. (3) Taylor
335x (165x). Business Psychology. (3) Moffitt
340x (143x). Mental Hygiene. (3) Taylor

DIVISION OF RELIGION

Bible and Modern Scripture

111x, 112x, 113x (11x, 12x, 13x). An Introduction to the Book of Mormon and Its Teachings. (2-2-2) Doxey
123x, 124x, 125x (23x, 24x, 25x). An Introduction to the New Testament and Its Teachings. (2-2-2) Bentley
301x, 302x (101x, 102x). Gospel Teachings from the Old Testament. (2-2) Rasmussen
313x (113x). The Life of Jesus. (2) Gunn
314x (114x). The Life and Letters of Paul. (2) Gunn
321x, 322x, 323x (121x, 122x, 123x). An Introduction to the Book of Mormon and Its Teachings. (2-2-2) Doxey
331x, 332x, 333x (131x, 132x, 133x). The Doctrine and Covenants. (2-2-2) Doxey
338x (138x). The Pearl of Great Price. (3) Clark

Church History

301x, 302x (101x, 102x). Latter-day Saint Church History. (2-2) Berrett

L.D.S. Church Organization and Administration

141x, 142x, 143x (41x, 42x, 43x). Missionary Approach to the Gospel. (2-2-2) Belnap
301x (101x). Priesthood and Church Government. (2) Clark
313x (113x). Research Procedure and Evaluation of Evidence. (4) Harland
314x (114x). Genealogical Research in the United States. (4) Bennett
315x (115x). Genealogical Research in England and Wales. (4) Smith
316x (116x). Danish Ancestral Research. (4) Christiansen
317x (117x). New Methods and Sources in Seeking Forefathers. (2) Bennett
318x (118x). Advanced Course in Genealogical Research Procedure. (3) Bennett
377x (167)x. Scout Leadership. (2) Bentley

Theology

105x, 106x (5x, 6x). Principles and Doctrines of Mormonism. (2-2)	Riddle
303x (103x). The Principles, Doctrines, and Philosophy of the Church of Jesus Christ of Latter-day Saints. (2)	Doxey

Sociology

111x (11x). Elementary Principles of Sociology. (5)	Symons
112x (12x). Social Problems. (5)	Smith
392x (128x). Race and Racial Problems. (3)	Larsen
400x (170x). Achieving Success in Marriage. (3)	Bradford
420x (152x). Population Problems. (3)	Smith
423x (156x). Rural Sociology. (3)	Payne
449x (136x). Community Organization and Leadership. (3)	Dyer

Speech

319x (161x). Stage Craft. (2)	Struthers
520x (160x). Theory of Play Production. (3)	Gledhill
531x (180x). Speech Correction. (3)	Morley
536x (186x). Organic Speech Disorders (3)	Mecham

Zoology

357x (197x). Genetics and Racial Hygiene. (3)	Tanner
385x (175x). History of Biology. (2)	Tanner

COURSES ON A NON-CREDIT BASIS

Scripture

1-nc, 2-nc, 3-nc. A Survey Course in the New Testament.	Ricks
4-nc, 5-nc, 6-nc. A Survey Course in the Book of Mormon.	Ricks

HIGH SCHOOL COURSES

Art

10x. High School Art. One unit credit.	Gunn

English

1x. Remedial Language Usage. One-half unit credit.	Alder
20x. Types of Literature. One unit credit.	Mercer
21x. Senior English. One unit credit.	Mercer

Geography

30x. World Geography. One unit credit.	Layton

History

40x. United States History. One unit credit.	Caine
41x. World History. One unit credit.	Caine

Languages

60x. German. One unit credit.	Staff
61x. Spanish. One unit credit.	Staff

Mathematics

5x. Remedial Arithmetic. One-half unit credit.	Haupt

70x. **First Course in Algebra.** One unit credit.	Marshall
71x. **Second Course in Algebra.** One unit credit.	Marshall
72x. **Plane Geometry.** One unit credit.	Haupt
73x. **Consumer Mathematics.** One unit credit.	Haupt

Social Science

80x. **Problems in a Democracy.** One unit credit.	Caine

Leadership Week

This five-day festival of learning is conducted by the faculty and by off-campus consultants for the benefit of teachers, officers, community and civic leaders everywhere. A few of the areas of instruction which stimulate, inspire, and inform Leadership Week visitors are these: how to teach; how to direct music, drama, and speech activities; how to solve teen-age problems; and how to teach in and practice the handicraft arts. Instruction in the scriptures and lectures from the general authorities and others also add greatly to the interest and value of Leadership Week.

The date of the 1958 Leadership Week is June 23-27. The doors of the University are open to all during this week. However, advance registration is necessary to insure housing. Both food and housing are available at moderate cost.

In addition to the general Ladership Week held at the University in Provo each year, local institutes are held by faculty members in other communities, upon invitation from the L.D.S. Stakes concerned.

Travel Studies

B.Y.U. Travel-Study tours are designed for people from seventeen to seventy years of age (seventeen to thirty-six for "student tours") who wish to increase their knowledge and understanding of their own nation and of other lands and peoples through purposeful, educational travel. Membership is not limited to B.Y.U. students or former students; anyone within the specified age limit who is willing to adhere to the standards of the Church of Jesus Christ of Latter-day Saints may file application for membership.

All of the Brigham Young University travel-study tours are non-commercial, non-profit, educational projects. They are sponsored by a university which recognizes the value of organized educational travel experience and senses the importance of broadening cultural horizons and promoting international understanding and good will.

Opportunities are provided for Brigham Young University travel-study groups to meet Latter-day Saint mission presidents, missionaries, and members of the Church of Jesus Christ of Latter-day Saints who reside in the distant missions of the Church. ?

College credit is available to tour participants who complete the study program as outlined by the academic department which is co-sponsoring the travel-study tour.

B.Y.U. Travel-Study Tours for 1957

(Similar tours are being planned for 1958.)

"Student Tour of Europe" (including Spain, Yugoslavia, and Vienna)

"Student Tour of Europe" (including Denmark, Sweden, Norway, and Scotland)

"Peoples and Cultures Tours of Europe" (including Denmark, Sweden, and Norway)

"Peoples and Cultures Tour of Europe" (including Ireland, Wales, Spain, and Yugoslavia)

"American History and Government Tour"

"L.D.S. Church History Tour" (including the Hill Cumorah Pageant)

"Socio-Cultural Tour of the Hawaiian Islands"

"Student Tour of Mexico"

The following tours are sponsored by the Adult Education and Extension Services of the Brigham Young University whenever there is sufficient interest:

"Book of Mormon Tour of Mexico and Central America"

"Circle Tour of South America"

"Round-the-World Tour"

Institutes and Short Courses

The Institutes and Short Courses Department of the Extension Services was created to present non-credit programs both on and off-campus—lecture series, institutes, classes appealing to particular interest groups, coordination of departmental conferences, forums, special promotions, etc. The varied curriculum includes programs in religion, the fine arts, engineering, athletics, and many specialized fields. This department attempts to reach persons who may not have the desire to acquire academic degrees, but seek stimulation and training in special areas for personal satisfaction or professional advancement with instruction on an academic basis. Courses, institutes, and lectures are presented each year in most of the Rocky Mountain and Western States, drawing upon the University faculty or prominent business and professional people to present courses which are most needed and desired by intended audiences.

Since this department deals on a non-credit basis, its program need not be concerned specifically with filling requirements, but may be geared to the special needs and desires of the group, thus becoming flexible as to the content of the course or lecture. Presentations are extremely informative and on an informal level, but of high academic quality. Courses are generally eight to ten weeks in length, one and one-half hours per night, one night a week, though lectures and institutes vary with each program. All programs are led by specialists prominent in their respective fields. Many instructors and speakers are drawn from the wealth of leadership at Brigham Young University, although the instructional staff is not restricted to the University.

Although the department is operated on a non-profit basis, a nominal fee is required for each presentation. Charges cover expenses such as modest honorariums for the lecturers, publicity, administration, and travel and supplies when necessary. Persons desiring courses or lectures to be presented in their locale may initiate them by contacting the Institutes and Short Courses Office. Registration is completed at the first class meeting or at the Extension Services office before the course or lecture begins.

Following are examples of programs presented by the Institutes and Short Courses Department:

Home Planning and Construction
Reading Better and Faster
Friday Faculty Forum
The Fascinating Search—Genealogy
Yourself and Charm
Life of the Master
Writer's Workshop
Secretarial Workshop
Amateur Radio
Businessmen's Gym Club
Real Estate
Basketball Workshop for Boys
Seattle Stake Lecture Series
Swimming Instruction for Women
Canadian Lecture Series
Modern Languages for Children
Audio-Visual Aids Classes
Some Aspects of Judaism and Christianity
Doctrine and Covenants
Atoms for Peace
Masterpieces of Musical Literature

Expectant Parents
Counseling Service
Interior Decorating
Utah History
Know Your Religion
Boy Scout Pow-Wow
Executive Health
Women's Gym Class
Children's Rhythms
Fun With Photography
Special Lecture Series
Missionary Approach to the Gospel
Music Instruction for Instrumentalists
The Story of the Pearl of Great Price
The Book of Mormon Testifies

Extension Publications

All devotional assembly speeches, as well as many lecture series, are reproduced in mimeographed form by the Extension Publication Department. These are sold at cost.

At the end of each school year complete sets of the assembly speeches are bound in post binders and may be purchased for $5.00. These are particularly valuable in ward and home religious libraries.

Following are a few examples of desirable publications:

Speeches of the Year: "The Profile of a Prophet" by Elder Hugh B. Brown.
(8½ x 11 mimeographed speeches, 8 pages, 15c)

An Apostle Speaks to Youth: "Chastity" by Elder Mark E. Petersen
(5½ x 8½ printed booklet, 16 pages, 20c)

Lecture Series: "Heroines in the Church" by Ivan J. Barrett
(8½ x 11 mimeographed series of five lectures, 73 pages, 75c)

Leadership Week Lectures: "Trial of the Stick of Joseph" by Jack West
8½ x 11 mimeographed series of lectures, 105 pages, 75c)

Missionaries, teachers in Sunday School classes and other church auxiliaries, classes, speakers, and students of the scriptures find these publications stimulating because of the timely stories, interpretations of current events, and faith-promoting experiences presented to the student body of the University.

For full details about available stock and prices, write to Extension Publications, Brigham Young University, Provo, Utah.

Statistical Summaries, 1956-57

ENROLLMENT SUMMARY — 1956-57
PROVO, UTAH, CAMPUS
AS OF MARCH 26, 1957

College	Freshman	Sophomore	Junior	Senior	Graduate	Men	Women	Total
Biological and Agricultural Sciences	228	220	202	184		765	69	834
Commerce	358	304	342	325	1	934	396	1330
Education	287	400	452	457	7	483	1120	1603
Family Living	162	125	90	83	3	6	457	463
Fine Arts	206	145	136	135	3	310	315	625
Graduate School					547	395	152	547
Humanities and Social Sciences	209	220	230	240	3	559	343	902
School of Nursing	65	49	27	47		1	187	188
Physical and Engineering Sciences	545	380	277	254	*54	1481	29	1510
Recreation, Health, Physical Education and Athletics	101	94	94	100	2	268	123	391
General Registration	1548	513	78	8	2	1128	1021	2149
TOTALS	3709	2450	1928	1833	*622	6330	4212	10542
Summer Quarter - 1956						1542	962	2504
Total Daytime College Resident Students								13046
Evening Residence						1035	1168	2203
Extension Class and Correspondence						1731	1154	2885
TOTALS								**18134**
Less Duplications, 1956 Summer School								— 1245
Evening, Extension and Correspondence								— 600
Net Cumulative Total - College Level								**16289**
B.Y.U. HIGH SCHOOL								
Junior High School						78	70	148
Senior High School						105	79	184
B.Y.U. ELEMENTARY SCHOOL						99	107	206
Total B.Y. High and Elementary Schools						282	256	538
TOTAL STUDENTS ON B.Y.U. CAMPUS								**16827**

*Includes 47 5th Year Engineers

BRIGHAM YOUNG UNIVERSITY 1956-57 CUMULATIVE AUTUMN, WINTER, AND SPRING ENROLLMENT, REGULAR DAY TIME COLLEGE STUDENTS, PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN COUNTRIES, AS OF MARCH 26, 1957

11 Western States

Utah	4658
California	1657
Idaho	1081
Arizona	395
Oregon	318
Nevada	282
Washington	253
Wyoming	168
Colorado	167
Montana	127
New Mexico	101
	9207

12 Central States

Illinois	55
Indiana	30
Michigan	30
Iowa	24
Wisconsin	24
Ohio	23
Kansas	21
Minnesota	21
Missouri	16
Nebraska	15
South Dakota	12
North Dakota	6
	277

14 Southern States

Texas	139
Virginia	45
North Carolina	34
Florida	29
Georgia	18
South Carolina	18
Oklahoma	13
Mississippi	12
West Virginia	7
Alabama	6
Kentucky	5
Tennessee	5
Louisiana	5
Arkansas	3
	339

10 New England and Eastern Seaboard States and District of Columbia

New York	71
Pennsylvania	34
New Jersey	25
Maryland	18
District of Columbia	18
Massachusetts	12
Connecticut	7
Maine	6
Vermont	3
Rhode Island	3
New Hampshire	1
	198

3 Territories

Hawaii	79
Alaska	13
Canal Zone	1
	93

30 Foreign Countries

Canada	269
Mexico	49
Korea	15
Guatemala	14
Brazil	9
Germany	9
Iran	8
Japan	8
Finland	7
Great Britain	6
Denmark	4
Samoa	4
Argentina	3
Australia	2
Greece	2
India	2
New Zealand	2
Sweden	2
Switzerland	2
Burma	1
Equador	1
France	1
Holland	1
North Africa	1
Norway	1
Peru	1
Siam	1
Spain	1
Uruguay	1
West Africa	1
	428

Recapitulation

11 Western States	9207
12 Central States	277
14 Southern States	339
10 New England and Eastern Seaboard States and District of Columbia	198
3 Territories	93
30 Foreign Countries	428
	10,542

BRIGHAM YOUNG UNIVERSITY 1956-57 CUMULATIVE AUTUMN, WINTER AND SPRING ENROLLMENT, REGULAR DAY TIME COLLEGE STUDENTS FROM STAKES AND MISSIONS AS OF MARCH 26, 1957

STAKES	
Alberta	71
Alpine	122
American Falls	16
Ashley	5
Bakersfield	27
Bannock	10
Bear Lake	14
Bear River	17
Beaver	17
Ben Lomond	18
Benson	8
Bighorn	51
Blackfoot	27
Blaine	8
Boise	45
Bonneville	45
Bountiful	39
Burbank	2
Burley	39
Butte	27
B.Y.U.	73
Cache	5
Calgary	34
Cannon	7
Canyon Rim	1
Carbon	34
Cassia	21
Cedar	12
Chicago	42
Columbia River	44
Cottonwood	34
Covina	17
Dallas	17
Davis	39
Denver	54
Deseret	78
Detroit	27
Duchesne	22
East Cache	4
East Jordan	43
East Long Beach	56
East Los Angeles	76
East Mill Creek	27
East Ogden	26
East Phoenix	31
East Provo	288
East Rigby	22
East Riverside	3
East Sharon	166
El Paso	31
Emery	51
Emigration	16
Ensign	24
Farr West	9
Flagstaff	2
Florida	8
Franklin	20
Fresno	25
Garfield	17
Glendale	76
Gooding	34
Grand Coulee	32
Grand Junction	2
Granite	16
Grant	14
Grantsville	13
Gridley	40
Gunnison	42
Hayward	19
Highland	34
Hillside	38
Holladay	14
Honolulu	13
Houston	12
Humboldt	16
Hyrum	5
Idaho	14
Idaho Falls	41
Inglewood	42
Juab	33
Juarez	33
Kanab	17
Klamath	27
Kolob	217
Lake Mead	11
Lake View	20
Las Vegas	94
Layton	22
Lehi	93
Lethbridge	47
Liberty	13
Logan	1
Long Beach	53
Lorin Farr	21
Los Angeles	65
Lost River	9
Lyman	30
Malad	29
Maricopa	35
Mesa	70
Millard	51
Millcreek	26
Minidoka	21
Moapa	39
Montpelier	21
Monument Park	23
Moon Lake	19
Morgan	8
Moroni	15
Mt. Graham	25
Mt. Jordan	54
Mount Logan	2
Mt. Ogden	19
Mt. Rubidoux	47
Murray	32
Nampa	83
Nebo	90
Nevada	52
New Orleans	5
New York	35
North Box Elder	18
North Carbon	23
North Davis	22
North Idaho Falls	48
North Jordan	26
North Pocatello	13
North Rexburg	16
North Sacramento	49
North Sanpete	42
North Sevier	22
North Tooele	24
North Weber	16
Nyssa	63
Oahu	15
Oakland-Berkeley	48

Ogden	21
Oneida	19
Oquirrh	12
Orange County	26
Orem	122
Palmyra	176
Palo Alto	65
Panguitch	33
Park	17
Parowan	13
Pasadena	83
Phoenix	40
Pioneer	10
Pocatello	14
Portland	61
Portneuf	22
Provo	197
Raft River	9
Redondo	19
Reno	41
Rexburg	28
Richland	73
Rigby	29
Riverdale	13
Riverside	3
Roosevelt	35
Sacramento	31
St. George	27
St. Johns	36
St. Joseph	18
Salmon River	9
Salt Lake	15
San Bernardino	42
San Diego	80
San Fernando	85
San Francisco	29
San Joaquin	32
San Jose	33
San Juan	53
San Luis	25
Santa Barbara	27
Santa Monica	47
Santaquin-Tintic	32
Santa Rosa	36
Seattle	55
Sevier	61
Sharon	102
Shelley	13
Smithfield	9
Snowflake	58
South Bear River	13
South Blackfoot	28
South Box Elder	21
South Carolina	14
South Davis	21
South Idaho Falls	60
South Los Angeles	69
South Ogden	20
South Salt Lake	13
South Sanpete	25
South Sevier	34
South Summit	43
Southern Arizona	19
Spanish Fork	12
Spokane	27
Springville	12
Star Valley	27
Sugar House	22
Summit	20
Tacoma	37
Taylor	47
Taylorsville	14
Temple View	12
Teton	23
Timpanogos	86
Tooele	24
Tucson	1
Twin Falls	81
Uintah	53
University	14
Utah	209
Uvada	17
Valley View	3
Walnut Creek	22
Wasatch	78
Washington	64
Wayne	25
Weber	14
Weiser	45
Wells	13
West Boise	51
West Jordan	39
West Pocatello	30
West Utah	173
Wilford	30
Willamette	44
Woodruff	41
Yellowstone	11
Young	73
Zion Park	16

MISSIONS

Argentine	1
Australian	2
Brazilian	4
British	4
California	58
Canadian	17
Central American	11
Central Atlantic States	49
Central States	52
Danish	1
East Central States	15
East German	1
Eastern States	61
Finnish	5
French	4
Great Lakes	39
Gulf States	12
Hawaiian	32
Japanese	1
Mexican	8
New England	24
New Zealand	2
North Central States	31
Northern California	14
Northern Far East	4
Northern Mexico	1
Northern States	38
Northwestern States	68
Norwegian	1
Samoan	2
South African	1
Southern Far East	1
Southern States	42
Spanish American	12
Southwest Indian	9
Swedish	2
Swiss-Austrian	3
Uruguay	1
West Central States	71
West German	5
Western Canadian	27
Western States	52

Index

Academic Standards 91
Accounting 143
Accreditation 65
Achievement Awards 90
Acoustical Engineering 214
Administration and Faculty 10
Administrative Officers, Colleges, Schools, Divisions, and Research 11
Administrative Officers, Departments of Instruction 12
Administrative Officers, General 10
Administrative Officers, Service Units 12
Administrative Officers, University 10
Admission Requirements 71
Adult Education Services 373
Advertising 290
Agricultural Economics 146
Agronomy 148
Air Science 152
Air Science Allowances 154
Air Science, Course Fee Deposit 154
Air Science, Enrollment 152
Air Science, Extra-curicular Activities 153
Air Science, Military Obligation 153
Air Science, Period of non-Attendance 154
Air Science, Program 152
Air Science Program, Veterans 153
Alumni Association 100
American History and Government Requirement 245, 333
Animal Husbandry 155
Applied Music 300
Arabic 286
Archaeological Collection 66
Archaeology 159, 345
Art 162
Art Collections 66
Assemblies, Devotional and Student 99
Assistantships 133
Audio-Visual Service 374
Awards 90
Bacteriology 168
Banking 226
Bible and Modern Scripture 345
Biological and Agricultural Sciences, College of 102
Board of Trustees 10
Botanical Collection 67
Botany 171
Business Education and Office Management 175
Business Program, Pre-Graduate 105
B.Y.U. Founding and Philosophy 41
B.Y.U. Women's Organization 98
Calendar, 1957-58 6
Calendar of Events 7
Campus Housing 94
Catalog Helps 1
Certificate, Elementary School 106
Certificate, Secondary School 106
Chemical Engineering 180
Chemistry 180
Church History 347
Church History and Philosophy 350
Church Organization and Administration 347
Civil Engineering 185
Classes, Withdrawal from 73
Classical Languages 285
Classification of Students 72
Clothing and Textiles 189
Collections, Science and Art 66
College Instruction 204
College of Biological and Agricultural Sciences 102
College of Commerce 105
College of Education 106
College of Family Living 119
College of Fine Arts 125
College of Humanities and Social Sciences 126
College of Physical and Engineering Sciences 128
College of Recreation, Physical and Health Education and Athletics 130
Colleges, Schools and Divisions 101
Commerce, College of 105
Comparative Literature 217
Composite Majors 109
Contents 4
Correspondence Courses 377
Cost of Attending B.Y.U., Estimated 88
Counseling Service 89
Counselor for Women 90
Course Divisions 71
Course of Study, Election of 72
Courses, List of 141
Credit in One Quarter, Limitation on 74
Credit Limitation 74
Credits 73
Dairy Husbandry 155
Dean of Students 89
Deans' Council 14
Degrees 137
Department Chairman 12
Departmental Fees 86
Departmental Organizations 97
Departments of Instruction, List of 12
Deposits 87
Devotional Assemblies 99
Discipline 91
Division of Religion 140
Dormitory Facilities 94
Dramatic Arts 361
Drawing (Graphics) 268
Economics 193
Economics, Agricultural 146
Economics and Management of the Home 196
Education, College of 106
Education: Instruction 198
Education, Professional Preparation, Secondary 108
Educational Administration 206
Educational Objectives and Programs 211
Educational Psychology 208
Educational Research and Services 208
Educational Tests and Measurements 208
Educational Values and Programs 211
Election of Studies 72
Electrical Engineering 212
Elementary Certificate Requirements 106
Elementary Instruction 199
Elementary Laboratory School 114
Emeriti 15
Employment, Student 92
Engineering Sciences 128
English 217
English Education 223
English Placement Tests 217
English Standards 74
Entomological Collection 68
Entomology 369

Entrance Requirements 71
Evening School 374
Executive Committee of Brigham Young University 10
Extension Classes 374, 377
Extension Services 373
Extension Services Council 14, 373
Faculty, Administrative Officers 10
Faculty, Alphabetical List of 15
Faculty, Emeriti 15
Faculty, Instructional and Administrative Staff 16
Faculty, Special Instructors or Lecturers 36
Family Living, College of 119
Family Living, Course in 225
Farm Mechanics 266
Fees, Departmental 86
Fees and Deposits 84
Fees, General 84
Fees, Laboratory Schools 87
Fees, Late Registration 85
Fees, Nursing School 88
Fees, Nursing 139
Fees, Special College and Graduate Students 84
Fees, Speech 86
Fees, University 84
Fellowships 133
Field Crop Production 149
Finance and Banking 226
Financial Aids 90
Fine Arts Collection 67
Fine Arts, College of 125
Food and Nutrition 228
Food Service 94, 95
Foreign Students Adviser 90
French 279
General Administrative Officers 10
General and Comparative Literature 217
General Education Program 76
General Education Requirements, Old 81
General Instruction 198
General Music 300
Geographical Organizations 98
Geography 233
Geological Collections 68
Geological Engineering 236
Geology 236
German 280
Graduate Council 14
Graduate Record Examination 134
Graduate School 132
Graduation Requirements 75
Grants-in-Aid 90
Graphics 268
Greek 286
Guidance, Courses in 208
Health Education 242
Health Service, Student 93
Hebrew 351
High School Courses 117
High School Teacher's Certificate 106
History 245
History of Brigham Young University 41
History of Education 211
Home Study 376
Home Study Courses 377
Homemaking Education 250
Honors, Scholarship 83
Horticulture 254
Housing and Design 256
Housing, Student 94
Human Development and Family Relationships 258
Humanities and Social Sciences, College of 126
Industrial Arts 266
Industrial Arts and Drawing 264
Industrial Management 270
Institutes and Short Courses 384
Italian 281
Japanese 282
Journalism 273
Junior High School 115
Laboratory Schools 114
Laboratory Schools, Staff 38
Landscape Architecture 254
Languages 278
Languages, Classical 285
Languages, Modern 279
Latin 285
Law, International 333
L.D.S. Church Organization and Administration 347
Leadership Week 383
Lecture Service, Extension 384
Library Facilities 69
Library Science 287
Linguistics 286
Literature, General and Comparative 217
Loan Funds 90
Major and Minor Requirements 82
Major, Composite Teaching 109
Major, Teaching 108
Management, Range 171, 172
Marketing 289
Master's Thesis 136
Mathematics 292
Mechanical Engineering 295
Medical Services 93
Medical Technology 102
Minor, Teaching 108
Modern Languages 279
Modern Scripture 345
Moral Standards 91
Motion Picture Instruction 198
Motion Picture Production 70
Music 300
Music, Applied 300
Music Collection 68
Music, Education 302
Music, Fees 85
Music, General 300
Music Theory 301
Musicology 300
Non-Student Organizations 98
Numbering System, Courses, Change in 141
Nursing, Courses in 314
Nursing, School of 138
Objectives 40
Off-Campus Courses 375
Off-Campus Housing 95
Office Management 175
Organizations, Non-Student 98
Organizations, Professional and Departmental 97
Organizations, Religious 98
Organizations, Service 98
Organizations, Social and Geographical 98
Organizations, Student 96
Personnel and Guidance 208
Philosophy 349
Philosophy of Education 211
Photography 165, 275, 330
Physical and Engineering Sciences, College of 128
Physical Education 318
Physical Science, Courses in 328
Physics 329
Placement Bureau 92
Placement, Teacher 113
Placement Test for Freshman English 217
Political Science 333
Portuguese 282
Poultry Husbandry 156
Pre-Dental Course 103
Pre-Graduate Business Program 105
Pre-Legal Course 126
Pre-Medical Course 103

Pre-Optometry Course 104
Pre-Osteopathy Course 104
Pre-Pharmacy Course 104
Presidency of the University 16
Pre-Veterinary Course 104
Private Instruction Fees 85
Professional Organizations 97
Psychology 339
Public Relations 277
Publication Services, Extension 385
Publications, Student 97
Radio 276, 362
Range Management 171, 172
Recreation 343
Recreation, Physical and Health Education and Athletics, College of 130
Refunds 84
Registration 7
Religion, Courses in 345
Religion, Division of 140
Religious Instruction 352
Religious Opportunities 99
Religious Organizations 98
Requirements, Graduate 75
Requirements, Major and Minor 82
Requirements, Undergraduate 71
Rental Agreements 95
Rentals 86
Research and Statistics 208
Reservation of Right to Change Courses 141
ROTC Program 152
Russian 283
Schedule of Events 7
Scholarship Honors 83
Scholarships 90
Scholarships, Graduate 133
Scholarships, Nursing 90
School in the Social Order, The 211
School of Nursing 138
Science Collections 66
Scouting Education 354
Scripture 351
Secondary Instruction 202
Secondary Laboratory School 115
Secondary Teacher's Certificate 106
Secondary Teachers, Registration of Prospective 82
Secretarial Training 175
Security Office 96
Semitic Languages 286, 351
Senior High School 115
Service Organizations 98
Shorthand 175
Sigma Xi 98
Social Organizations 98
Social Units 98
Sociology 356
Soils 148
Spanish 283
Special Instructors 36
Speech 361
Speech Education 367
Speech Fees 86
Staff of the University 16
Standards, Academic 91
Standards in English 74
Statistical Summaries 386
Statistics 208
Student Assemblies 99
Student Employment 92
Student Health Service 93
Student Housing 94
Student Organizations 96
Student Personnel Services 89
Student Publications 97
Students, Classification of 72
Studies, Election of 72
Summer Quarter 8
Sunday Schools, University 99
Table of Contents 4
Teacher Placement 113
Teacher's Certificate, Elementary School, Requirements for 107
Teacher's Certificate, Secondary, Requirements for 107
Teachers, Secondary School, Preparation of Subject Matter 108
Teaching, English Major 218
Teaching Majors 108
Teaching Majors, Composite 109
Teaching Minors 108
Television 276, 362
Theology and Philosophy 349
Theory of Music 300
Thesis, Master's 136
Traffic and Security 96
Travel Study Tours 383
Trustees, Board of 10
Typing 175
Undergraduate Colleges, Definition 14
Undergraduate Requirements 71
Unification Plan 65
University Calendar 7
University Council 14
University Fees 84
University History 41
University Today, The 65
Van Buren, Lotta, Collection 68
Veterans' Benefits 90
Visual Aids Services 374
Withdrawal from Classes 73
Youth Leadership 354
Zoological Collections 68
Zoology and Entomology 369